660.5 v. 22 pt. 3

THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Pennsylvania Grade Crude Oil Association, William Penn Hotel, Pittsburgh, Pa., July 8.

North American Gasoline Tax Conference, King Edward Hotel, Toronto, Ont., Sept. 2, 3, 4.

American Chemical Society, Hotel Gibson, Cincinnati, O., Sept. 8 to 12.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Sept. 17.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 17, 18, 19.

National Safety Council, Petroleum Section, Pittsburgh, Pa., Sept. 29 to Oct. 4.

International Petroleum Exposition and Congress, Tulsa, Oct. 4 to 11.

Big Four State Jobbers Convention, (Missouri, Iowa, Kansas and Nebraska) Kansas City, Mo., Oct. 14, 15, 16.

Independent Oil Men of America, Marketing Congress and Exhibit, Statler Hotel, St. Louis, Mo., Nov. 2, 3, 4, 5.

American Petroleum Institute, Stevens Hotel, Chicago, Nov. 10 to 13.

NATIONAL PETROLEUM NEWS

Vol. 22 No. 27

Published by

The National Petroleum Publishing Co.
1213 W. Third St., Cleveland, O.

Tel. CHerry 7672

Branch Offices:

Tulsa, 904 World Bldg., Tel. 3-7132.

New York, 342 Madison Ave., Tel. Vanderbilt 3951.

Houston, 2020 Gulf Bldg., Tel. Fairfax 6286.

Chicago, 35 E. Wacker Drive, Tel. State 4141.

Subscription rate $3.50 per year, U. S., Mexico and Canada; $5 Foreign countries. Current copies 10 cents; for back issues more than two months old 25 cents per copy.

All contents copyrighted, 1929, Trade Mark Registered U. S. Patent Office.

Member Audit Bureau of Circulations and Associated Business Papers.

General

Pipe Lines Building to Expand Market for Gas to Include 36 States 27
Gasoline Consumption Up 12.6% for 42 States in 4 Months 30
Review of Late Production News 32
A. P. I. Report of Refinery Operations Week Ended June 28 33
New Petroleum Testing Methods Adopted at A. S. T. M. Meeting 34
Institute Seeks Data on Minimum Working Stocks of Gasoline 37
Town Lot of Wells of Oklahoma City Pool Have Small Chance to Pay Out 40
Texas Output 100,000 Barrels Over Present Demand 48
Oklahoma City Extended Two Ways; Sand Wells Show Water 49
Production from Playa del Rey Field to be Prorated 52
Kettleman Operators Object to Government Action 53
Group Formed to Develop Tar Sands of Athabasca 57
U. S. Crude Production and Imports Week Ended June 28 105

Engineering

Producing Problems of Oklahoma City are Varied and Difficult 55
First "Washing In" Attempt is Successful in Oklahoma City 58
Tables Compiled for Correcting Oil Volumes for Temperature—*By Guy S. Mitchell* 61
Economics of Storing Light Products in Pressure Containers—*By C. L. Day* 71
Champlin Plant Generates Own Electricity Cheaply 78
New Type Roof is Non-Sinkable 78
Installs Steel Runways on Tank Cars 85

Merchandising

Latest "Cooperative" Cut Rate Tulsa Station Fails 38
They Sell the Second Oil Fill While Making the First—*By R. H. Thomas* 93
Salesmen, Speakers Hold Interest at Meetings of Attendants 101

Markets

Chicago Gasoline Market Looms Up 109
Mid-Continent, Movement of Gasoline Continues Good 111
Refinery Price Tables 112, 114, 115
California, Few Sales Reported in Quiet Market 118
Pennsylvania Kerosene, Fuel Oil More Active 119
Eastern Domestic, Gasoline Markets Show Improvement 120
Gulf Coast, Foreign Inquiries Withdrawn 120
Scale Waxes Quoted Lower 121
Complete Seaboard Prices 122
Tank Wagon Price Tables 124, 125
Aviation Gasoline Price Table 125
Crude Oil Prices All Fields 127, 129

Departments

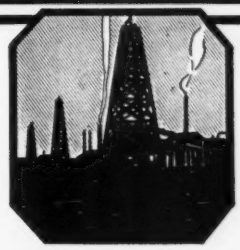
The Editors' Viewpoint 31
The Mid-Continent Skyline 47, 48
Our Industry 54
New Refining Patents 69
New Equipment 75
New Patents 88
New Stations Building 103
Oil Stocks and Finance 130, 132, 134

A 22-Inch Artery

LOWERING 30-foot lengths of steel pipe into a ditch across east Texas as part of construction work incident to building the Dixie Gulf Gas Co. line from Waskom to Houston and Port Arthur.

NATIONAL PETROLEUM NEWS

Published at
1213 W. Third St.
Cleveland



Branch Offices
Tulsa, New York, Houston, Chicago

Vol. 22 **CLEVELAND, July 2** **No. 27**

Pipe Lines Building to Expand Market For Gas to Include 36 States

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, July 1

MAGIC names in the business world—Rockefeller, Morgan, Insull, Doherty, Mellon, Crawford and others—are mentioned in almost every discussion of the natural gas industry's tremendous expansion, in which many ore companies are taking part.

These names indicate the financial strength and industrial intelligence back of the great projects which promise to lay a net work of steel arteries to serve cities and towns in 36 of the 48 states with natural gas before the end of 1931. Natural gas will be drawn from the Appalachian region, Arkansas, Louisiana, Texas, Oklahoma, most of the Rocky Mountain states, and southern California.

The states which may not have natural gas available to some of its cities and towns by the end of next year, or shortly thereafter, are the six New England States, North and South Carolina, Florida, Nevada, Washington and Oregon.

There is a chance, however, that this list of 12 may be reduced to five states by extension of present trunk line projects into Massachusetts, Connecticut, Rhode Island, North and South Carolina, Oregon and Washington.

Pipe line building is without question the most notable development of this year's industrial activities. Besides the natural gas lines, there are the gasoline and crude oil pipe line projects all of which are of prime economic importance to most of the United States.

The railroad and coal industries are bound to feel this development but to what extent is debatable. The oil and gasoline lines no doubt will cost the railroads of the southwest and east some oil tonnage.

Superficially it would seem that use of natural gas in centers that heretofore have had only manufactured gas, would curtail demand for coal for gas manufacture and affect coal tonnage on the railroads.

However, natural gas will be used in hundreds of towns and cities to supplement the manufactured gas supply. Manufactured gas plants will probably be operated at about their present rate, but new business will be acquired to absorb the new supply of the ideal fuel. This will mean a continuance of the demand for coal and its consequent tonnage for the railroads in the immediate future. What will follow further economic progress cannot yet be foretold.

The pipe line projects are carrying out to an unexpected degree President Hoover's ideas for construction work to restore prosperity. The projects involve expenditures of hundreds of millions of dollars, and are giving employment to thousands of men. Employment extends far beyond the pipe laying gangs which are working truly from coast to coast.

Pipe manufacture at present is the backbone of the steel industry. Pipe mills and mills that produce plate for pipe are working 24 hours a day and booked for six months ahead. This demand involves the employment of iron ore and coal miners, and quarry workers for the quarrying of limestone used in the reduction of the ore.

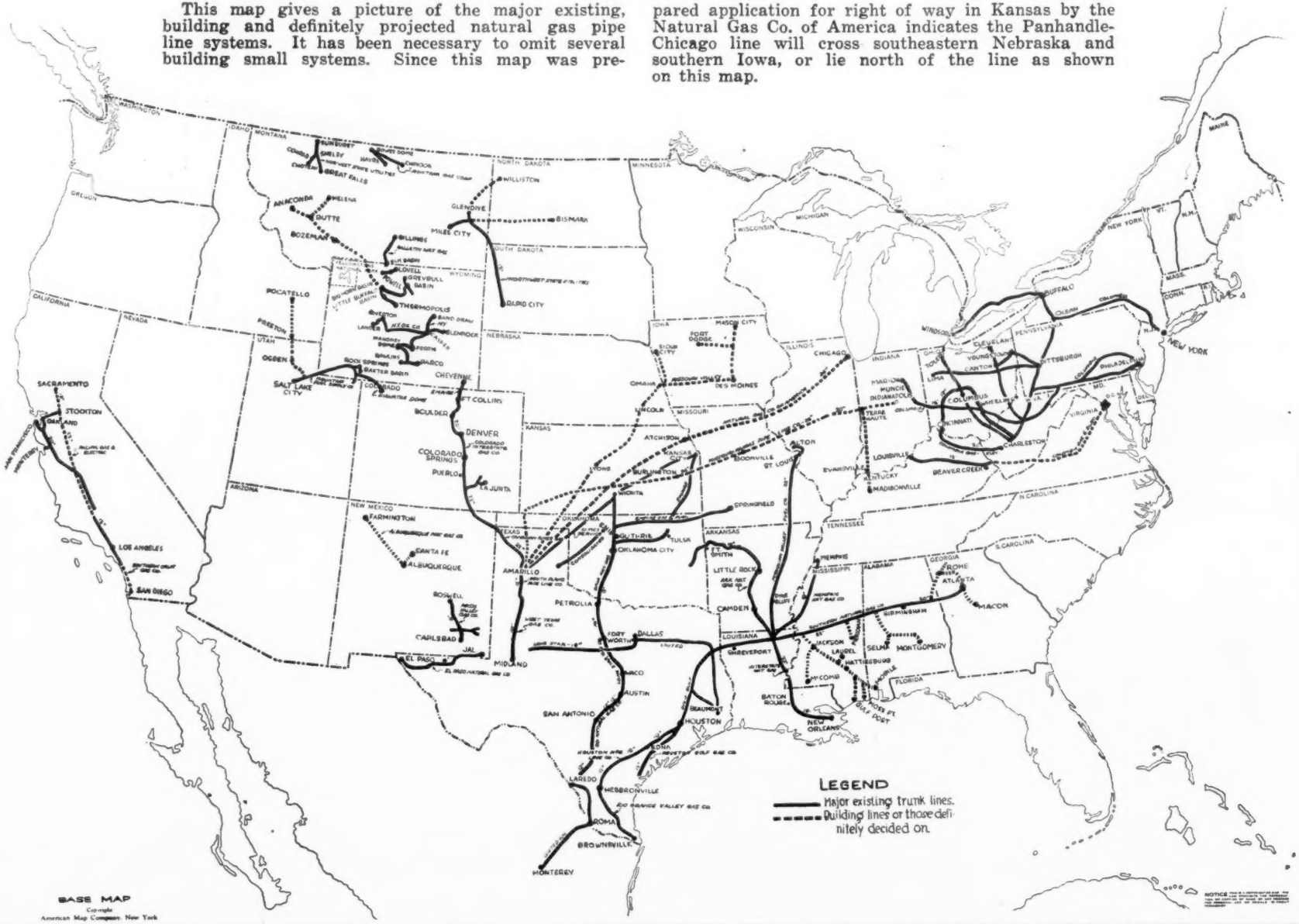
Extent of Gas Reserves

THE location, extent and probable volume of natural gas reserves, including geological data, will be discussed in the third article of this series on the tremendous expansion of the natural gas industry. The accompanying is the second article and deals with the major pipe line projects which have been laid in recent years, are being built, or are about to be built.

The first article of the series, published July 2, covered the general scope of the natural gas development which is bringing natural gas from remote fields of supply to the populous centers of industry, its economic importance, and the strong support the movement is receiving from oil and utilities companies, and bankers.

Major Natural Gas Pipe Line Systems

This map gives a picture of the major existing, building and definitely projected natural gas pipe line systems. It has been necessary to omit several building small systems. Since this map was prepared application for right of way in Kansas by the Natural Gas Co. of America indicates the Panhandle-Chicago line will cross southeastern Nebraska and southern Iowa, or lie north of the line as shown on this map.



The pipe line projects mean the expenditure of millions of dollars for pipe laying and auxiliary machinery. Compressors and other pipe line operating equipment is costing millions. It all means hundreds of thousands of tons traffic for the railroads. The channels of trade through which flow the dollars being invested in pipe lines, are countless.

The oil industry is taking a notable part in the natural gas industry expansion. These names appear in the list of gas resource developers: Standard Oil Co. of New Jersey; Standard Oil Co. of California; Standard Oil Co. of New York, through the Magnolia Petroleum Co.; Cities Service Co.; Phillips Petroleum Co.; The Texas Corp.; Skelly Oil Co.; Ohio Oil Co.; Prairie Oil & Gas Co.; Barnsdall Corp.; Continental Oil Co.; Standard Oil Co. of Indiana, through the Midwest Refining Co.; Mexican Seaboard Oil Corp., through the Milham Exploration Co., and Houston Oil Co.

Among the public utilities interests which are pushing ahead with natural gas development are the Columbia Gas & Electric Corp., the Insull interests of Chicago, Pacific Gas & Electric Co., Electric Bond & Share Co. affiliated companies, and a host of others whose assets are valued at many millions of dollars each.

Among the carbon black companies are two important natural gas producers: the Columbian Carbon Co. and the United Carbon Co. These two companies are also investing in pipe lines.

The United States Bureau of Mines estimates that more than 40,000 miles of trunk pipe lines now carry natural gas to more than 3500 cities and towns of the United States. The pipe line mileage is being increased this year by several thousand miles of trunk lines and the number of communities served with gas is growing by hundreds.

About 80 per cent of the gas consumed in the United States in 1929 was natural gas. With the completion of present projects the percentage will be considerably larger.

In 1929 it is estimated that a total of 2,330,100 millions cubic feet of gas was consumed, of which 1,900,000 million cubic feet was natural gas and 430,100 million cubic feet manufactured gas. There were 4,800 customers for natural gas and 12,200 customers for the manufactured gas.

In 1928 the total gas consumed was 1,991,500 million cubic feet, of which 1,568,000 million cubic feet was natural gas and 423,500 million cubic feet manufactured gas. There were 4,366 customers for the natural gas and 11,841 customers for the manufactured gas.

In 1925 the total of gas consumed was 1,558,300 million cubic feet, of which 1,188,600 million cubic feet was natural gas and 369,700 million cubic feet manufactured gas. Customers for natural gas numbered 3,508 and for manufactured gas 10,600.

The number of natural gas and total gas customers will leap by thousands as soon as the present pipe line projects are put into operation.

Industrial consumption of natural gas in 1928, the last year for which definite figures are available, was 1,247,102 million cubic feet or 78.9 per cent of the total natural gas consumption. Major classifications of industrial consumption that year were:

Oil and gas fields, 573,698 million cubic feet; carbon black industry, 175,137 million cubic feet; oil refining, 114,950 million cubic feet; electric power generation, 77,326 million cubic feet, and miscellaneous, 305,991 million cubic feet.

The alliance of the natural gas industry with the public utility industry indicates that a greater volume of gas will shortly be used for electric power generation. Other industries which might become large consumers include: heat treating of metals; smelting, glass, food, paint and varnish, ceramic, cement and lime, paper, leather, and enameling.

The chief domestic uses are: cooking, water heating, house heating, refrigeration, and incineration.

Introduction of natural gas into communities now dependent upon manufactured gas is expected to bring a notable increase in use of gas for house heating. Distributors in new natural gas on mixed gas markets are preparing campaigns to increase the use of gas in furnaces and domestic boilers.

Public utility interests that are not involved in the natural gas expansion projects, are still skeptical of the development. Their main objections or doubts are:

1. Price at the city gates. Doubt as to whether the gas can be transmitted hundreds of miles economically.
2. Reliability of supply because of remoteness of source. This involves fear that the supply might fail in face of a sudden high demand in severely cold weather.
3. Expense of converting manufactured gas distributing systems to natural gas distribution. Pipe joints must be replaced if natural gas is used in former manufactured gas lines.

The supply of manufactured gas is ample at present to care for cooking, water heating, refrigeration and incineration loads, some manufactured gas interests say. If natural gas is brought in it will be necessary to get industrial consumers to share the load and industrial gas may have to be sold under cost. Industrial contracts would have to have shut-off clauses so domestic consumers might have ample supply in emergencies. The shut-off clause would tend to intimidate industrial prospects, thus building a wall of sales restistance, it is argued.

The natural gas interests say that a reserve supply might be stored in holders at consuming centers the same as manufactured gas is stored. They point to the success of present long distance gas lines to prove the security of supply in emergencies.

One of the outstanding examples of dependability is that of the Interstate Natural Gas Co. line which shortly after completion was flooded for 120 miles by the Mississippi river. Part of the line was under 40 feet of water but service to New Orleans was never interrupted.

The natural gas distributing companies have been able to get rates that warranted the expenditures of the vast sums for pipe line construction and still assure amortization of the investment within the estimated life of present known gas reserves.

The newest proposal in rate structure is the heat unit plan proposed by the Peoples Gas Light & Coke Co. of Chicago. This rate structure is based on the therm, a unit of 100,000 British thermal units. This plan will permit the sale of gas on its intrinsic heating value rather than on its volume as has been the plan for many years.

This Insull company has filed a rate schedule with the Illinois commerce commission, according to a Springfield, Ill., dispatch, that calls for 58 cents for the first two therms, 17 cents a therm for the next 24 therms, 16.9 cents a therm for the next 239 therms and 16 cents a therm for all gas used in excess of 265 therms. The schedule has other classifications for specific classes or service.

The lowest price, 16 cents a therm, is equivalent to $1.76 per thousand

Work Starts on Sun Oil Co. Gasoline Pipe Line

DALLAS, July 1.—Contract for construction of the Sun Oil Co.'s 500-mile gasoline pipe line, from Marcus Hook, Pa., to southern Pennsylvania and northern Ohio, has been let to the Macpherson Construction Co., Dallas. The line is to be operated by a new subsidiary of the Sun Oil Co., the Susquehanna Pipe Line Co.

The line is to be welded, eight and six-inch in size, running from a point on the Delaware River southwest of Philadelphia, to Columbia, Harrisburg, Chambersburg and Pittsburgh, Pa., and Youngstown, Akron and Cleveland, in Ohio, with a branch north in eastern Pennsylvania to Reading and Allentown and the steel works in that district. The line will have a capacity of 15,000 barrels of gasoline daily.

First shipments of pipe are to arrive early in July and a number of equipment camps will be installed and construction started immediately.

cubic feet of 1100 B.t.u. per cubic foot natural gas. The company has a minimum price for manufactured gas of 85 cents per thousand cubic feet. Manufactured gas will run about 550 B.t.u. per cubic foot.

The therm system is regarded as being more scientific than the volume system because the gas user pays pro rata for the heat he gets.

In Atlanta the natural gas user is paying $1.40 for the first 1000 cubic feet of gas each month, $1.20 a thousand for the next 2000, 95 cents a thousand for the next 2000, and 75 cents a thousand for all in excess of 5000 cubic feet.

As was to be expected, the politicians are seeking regulation of the new pipe line systems. The Kansas public service commission is drafting a bill to be introduced to Congress by Senator Henry J. Allen to place the pipe lines under the jurisdiction of the Interstate Commerce Commission or some other federal agency.

Governor Clyde M. Reed of Kansas had directed the Kansas public service commission to investigate the entire gas situation in the state. The state is waging a rate fight in Wichita which has reached the federal courts, with the gas company successful in the first tilt.

Three bills have been introduced in the Louisiana legislature. Two would make the pipe lines common carriers and the third would make them a public utility subject to state supervision.

Gas men say it is impractical to make the pipe lines common carriers bound to receive tenders like oil tenders.

Gasoline Consumption Up 12.6% For 42 States in 4 Months

NEW YORK, June 30.—A gain of 14.2 per cent or 113,964,000 gallons in gasoline consumption in April over April, 1929, was reported by gasoline wholesalers and dealers in 42 states, according to the American Petroleum Institute.

Gasoline consumption in these 42 states for the four months ended with April totaled 3,068,247,000 gallons, compared with 2,725,470,000 gallons for the corresponding period of 1929; an increase of 342,777,000 gallons, or 12.6 per cent.

The largest per cent of gain in consumption of gasoline in April this year over April last year was in Wyoming, at 78.09 per cent. Rhode Island gained 52.41 per cent.

Five states showing decreases in consumption are Alabama, Florida, North Carolina, Ohio and South Carolina.

April Gasoline Tax Report

(Figures in thousands of gallons)

	April, 1930	April, 1929	% Change over April, 1930
Alabama	15,316	15,329	— 0.08
Arizona	6,927	6,075	+14.02
Arkansas	13,306	10,545	+26.18
Colorado	15,977	15,531	+ 2.87
Connecticut	18,470	15,198	+21.53
Delaware	3,107	2,631	+18.09
Dist. of Columbia	6,778	6,036	+12.29
Florida	19,684	19,835	— 0.76
Georgia	19,130	18,207	+ 5.07
Idaho	5,295	3,872	+36.75
Indiana	40,133	37,148	+ 8.04
Iowa	36,246	26,718	+35.67
Kansas	32,843	26,936	+21.93
Kentucky	14,282	12,539	+13.90
Louisiana	16,397	15,873	+ 3.30
Maryland	14,668	13,022	+12.64
Massachusetts	45,024	38,511	+16.91
Michigan	68,352	48,991	+39.52
Minnesota	35,616	29,886	+19.17
Mississippi	(a)12,253	12,170	+ 0.68
Missouri	38,041	31,470	+20.88
Nebraska	19,925	18,479	+ 7.82
Nevada	1,500	1,193	+25.73
New Hampshire	4,932	3,576	+37.92
New Jersey	43,655	37,657	+15.93
New Mexico	4,679	3,652	+28.12
North Carolina	17,828	17,957	— 0.72
Ohio	84,934	88,101	— 3.59
Oklahoma	28,300	25,638	+10.38
Oregon	15,355	11,502	+33.50
Rhode Island	9,000	5,905	+52.41
South Carolina	9,735	9,983	— 2.48
South Dakota	14,157	11,156	+26.90
Tennessee	18,179	15,406	+18.00
Texas	64,882	63,243	+ 2.59
Utah	5,847	4,381	+33.46
Vermont	3,076	1,957	+57.18
Virginia	19,041	17,242	+10.43
Washington	25,253	19,492	+29.56
West Virginia	11,555	10,208	+13.19
Wisconsin	35,801	29,654	+20.73
Wyoming	3,170	1,780	+78.09
Total	918,649	804,685	+14.16
Daily Average	30,622	26,823	+14.16
Increase over previous year:			
Amount of Increase	113,964		
Percentage increase in daily average	14.2%		
Illinois	78,870		
New York	124,443		

(a) Estimated.

Donnell Aids Findlay When Bank Fails

CLEVELAND, July 1.—O. D. Donnell, president of the Ohio Oil Co., has applied $2,000,000 of his personal fortune to safeguard depositors of a defunct savings bank at Findlay, O., where he lives and where the Ohio has its headquarters.

The bank closed May 6 with about $3,000,000 of deposits tied up by frozen loans. The nature of the loans was such, according to reports from Findlay, that it would be three years before depositors, all of them Mr. Donnell's fellow townspeople, could get any of their savings.

Mr. Donnell acquired the principal holdings of a Findlay national bank and sought permission for the national bank to take over the savings bank. It is reported to be likely that the request will be granted and the depositors will shortly be able to get their money. But to make funds immediately available Mr. Donnell placed $2,000,000 at the bank's disposal.

A year or so ago Mr. Donnell gave the Findlay public schools a stadium in memory of his father, the late J. C. Donnell.

Stations Under Contract May Be Leased

NEW YORK, June 25—American Petroleum Institute directors in meeting today issued another interpretation on Rule 4 of the code of ethics concerning oil companies buying or leasing stations having a contract with another supplying company.

Such purchase or lease may be made if the existing contract is continued, or if proper termination notice is given in accordance with the terms of the sales contracts.

The directors authorized the preparation of uniform signs to be displayed at stations by signers of the code. The sign is to inform the public that the operator is conducting his business in accordance with the code of ethics.

The next meeting of the directors will be in Tulsa during the International Petroleum Exposition in October.

Ohio Standard Increases Anti-Knock in "Gas"

CLEVELAND, July 1.—Standard Oil Co. of Ohio has increased the anti-knock qualities of its two grades of gasoline effective today. There was no change in the retail price.

More Ethyl fluid is added, and the base stock improved, in the premium motor fuel. The name has been changed from Sohio to Sohio Extra-Ethyl. Advertisements claim a 50 per cent increase in Ethyl fluid.

The competitive grade of gasoline is amber color, and obtains its anti-knock qualities in the refining process. Red Crown, the former competitive grade trade name, has been changed to the new Red Crown Amber gasoline.

Double page spreads in leading newspapers over the state today announced the changed brands. Billboards will begin carrying the new brands campaign July 15.

CLEVELAND, June 30—Ralph J. Reed, for many years chief engineer with the Union Oil Co. of California until his resignation a few months ago, is now engaged in general consulting engineering work with offices at 712 Standard Oil Bldg., Los Angeles.

The Editors' Viewpoint

The Research Program of the Future

THE engineers and chemists in the oil industry, and others as well, should give some thought to the future research work of the industry.

The present five-year program in fundamental research, made possible by the donations of $250,000 each by John D. Rockefeller and the Universal Oil Products Co., expires June 30, 1931. Discussion of any future program will take an important place in the sessions of the technical men at the coming annual American Petroleum Institute meeting in Chicago in November.

It is not too early now for the industry to begin to shape its ideas on this general research phase of industrial activity, which is proving so valuable as carried on in many other lines.

Without doubt there is a general feeling of disappointment in the industry at the results, to date at least, of the present research program, but the experience in general research work thus far should be valuable in planning its future course.

For one thing, direction of the present program has been outside of the technical men in the oil industry. When the two gifts for research work were announced, nearly five years ago, the institute, unfamiliar with this work and not having a technical department of its own to outline and direct a research program, virtually turned the money over to the National Research Council, which is engaged in pure fundamental research in many lines.

The provisions accompanying the granting of the total $500,000 called for a program of fundamental research rather than research of the applied type, also. Work on the 40 projects of the program is scattered about the country in numerous institutions without any obvious directing head. Certainly the personnel and equipment at some of these institutions is not of the caliber to which important research projects should be entrusted.

Reviewing the 40 subjects of the present program, it is difficult to see where the oil operating companies are going to get much of value from the work, even if the problem set forth in the project is satisfactorily solved to the satisfaction of everyone. Fundamental research as such undoubtedly has its place in the scheme of things; but in these days of rapid developments and progress in every industry, it would seem that a research program for an undivided industry should be directed at those fundamental problems, the solving of which will be of the greatest help to the industry in its applied research work.

Technical men in the industry will tell you that, in their work on practical research problems, they come up against the stone wall of some fundamental problem that has not yet been solved. Such problems should constitute the research program of the oil industry in the future.

The institute is going about it the right way to outline its future research program. A committee composed of K. C. Heald, Gulf Oil Corp., Harry H. Hill, Standard Oil Co. of New Jersey, and E. D. De Golyer, Amerada Petroleum Corp., all technical men of the highest standing in the industry, has been named by the institute to outline a future program on projects having to do with the commercial occurrence and recovery of petroleum. Another group headed by Prof. Taylor, head of the department of chemistry, Princeton University, is outlining projects having to do with the properties and utilization of petroleum.

These groups will present a report to the institute at its annual meeting. What appropriation they ask for to carry on this work should come, through the institute, from the oil industry at large. The industry will have a more active and direct interest in this work if the funds that make it possible come from a number of oil companies.

That the research program should be carried on goes without saying. There are too many examples in many other industries of the practical value to an industry of such work, to make this question debatable. The petroleum industry must keep up with other industries that utilize its products through joint research work on common problems. New products from petroleum will be forthcoming and new markets for present products, or what are now by-products. A properly directed research program can help bring this about.

The program that is accepted for the future should be looked upon as a permanent work of the industry so that high class men will go into this work. It should have a responsible and capable directing head, probably a member of the executive staff of the institute.

While the institute directors will have to assume responbility for setting the amount which is to be spent by the industry on research and, in a general way at least, for the efficient disbursement of that amount, the selection and carrying on of the projects would be left in the hands of the experienced technical men in the industry.

* * *

THE Texas Petroleum Marketers Association brings to light a fraud being perpetrated on independent stations handling gasoline of one of the principal marketing companies. The motorist presents a credit card on that company and tells the independent he can buy that company's gasoline at its own station at two cents under the posted price. Relying on this statement, the independent sells the gasoline for cash, at two cents below what he should receive.

The only tears we can shed over this are crocodile tears. In our opinion a merchant who will let his customer set his price for him deserves only this kind of treatment.

Review of Late Production News

DAILY average U. S. production the week ended June 28 was the highest since March, gaining 12,100 barrels on daily average to 2,610,950 barrels, according to the American Petroleum Institute.

Crude oil imports were about the same as the week previous, gaining only 715 barrels to 180,285 barrels per day. Total new crude supply was 2,791,235 barrels, compared with 2,778,-420 barrels the previous week.

Output in Oklahoma the past week decreased 8650 barrels, due to a decline in Oklahoma City. Konawa gained 4800 barrels. Little River and East Little River declined 4650 barrels.

Lea and Eddy counties in New Mexico gained 5900 barrels, bringing production in that state to 26,550 barrels.

There were increases of around 3000 barrels in Ector, Crane-Upton counties; increase of 3450 barrels in Yates and one of 2350 barrels in Gray county.

Santa Fe Springs increased 4200 barrels. Salt Flat declined 3500 barrels.

Oklahoma-Kansas

THE Mid-Continent was busy with extensions to several pools during the past week. Oklahoma City was moved outward in two directions, south and north. Edge water has again made its appearance on the south and a sand well up the structure toward the north is cutting. West Asher in Pottawatomie county, failed to get a threatened extension of a mile to the south when a wildcat missed the pay. In the pool proper there were two good completions bringing the total number of producers to eight.

The Konawa pool was fairly quiet though there were several inside completions of fair size. Larger wells were brought in at West Chandler where one, on being deepened made an initial flow of nearly 10,000 barrels.

In Kansas the Eastborough pool on the outskirts of Wichita is getting a big play. Several plans to restrict the drilling and prevent operators from entering the residential section of the city are considered. The Raymond Pool of Rice county had its production increased by the deepening of one of its five producers.

Wyoming, Montana

THE border field and the new discovery on Barthelote dome, not far south of the border are the chief points of interest at present in Montana. There are 9 producing wells, eight abandonments, and nine drilling wells in the border field. In Barthelote there is but one producing well and that is being drilled deeper to test lower sands. It is reported that three operators are prepared to enter this new district for tests to be drilled immediately.

Current production in this country by pools is found on page 105.

In Wyoming the Continental Oil Company has started a deep test in the Elk Basin field which lies across the Wyoming-Montana state line. Kinney-Coastal's deep test through all possible producing sands in the Pilot Butte field is rotary drilling with electricity for power supplied from the government project at Shoshone dam.

California

CALIFORNIA daily production for week ended June 28 was estimated at 599,700 barrels, a decrease of 4500 barrels under the previous estimate. This reduction, which is within 3700 barrels of the desired output of 596,000 barrels, was achieved notwithstanding substantial increases in several areas throughout the state.

The flush fields of Santa Fe Springs and Long Beach, showed increases of 5000 and 2000 barrels respectively. Actual production was decreased, however, in the fields of Elwood and Playa del Rey. The latter area had its potential production increased through the completion of three wells, but because of reluctance of refiners to take the "del Rey" oil, daily production has been curtailed.

Production news from California fields the past week was centered chiefly on out of the ordinary completions in the fields of Santa Fe Springs and Long Beach. Legislative complications in the Playa del Rey district threatened to hamper active drilling. There are over 30 active drilling wells, including six or seven that are within easy reach of the lower producing sand. Two wells were completed the past week in the shallow sand for very small initial yields.

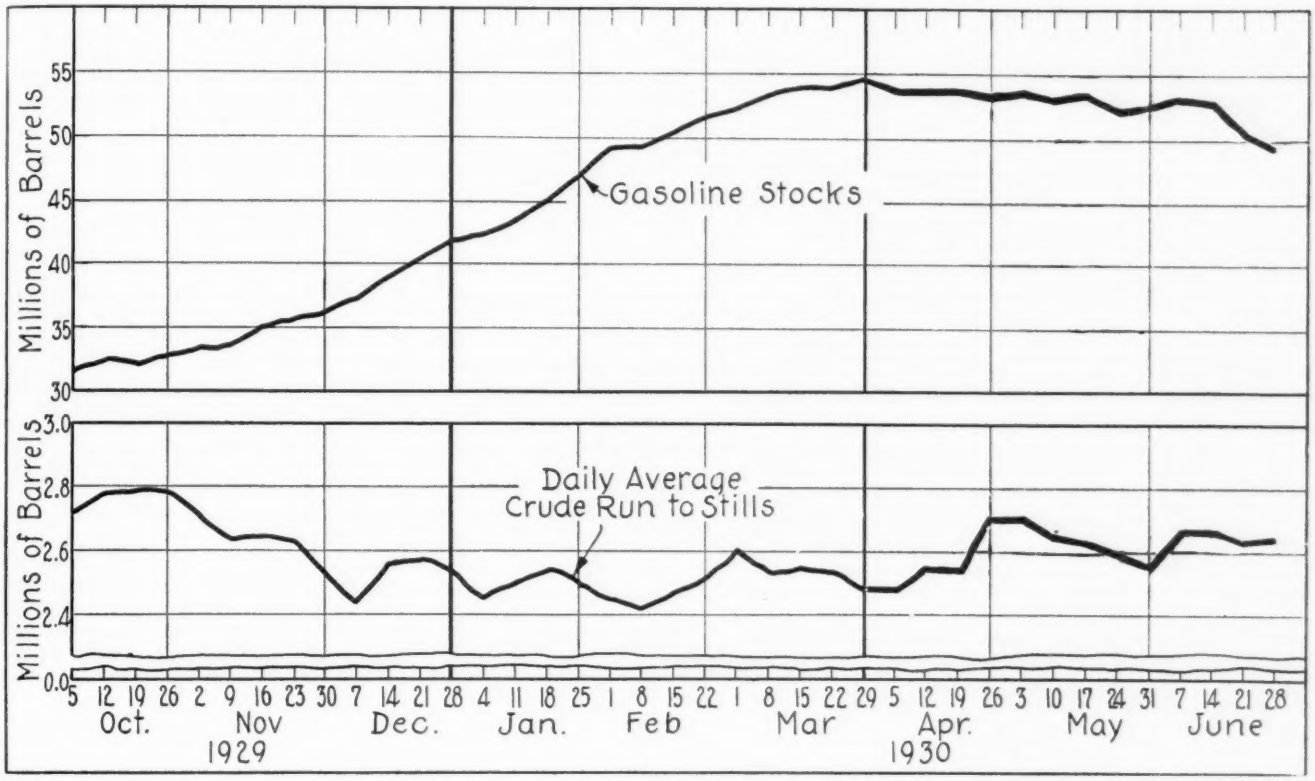
Texas, New Mexico, Louisiana

POTENTIAL production of the Hobbs district of Lea county, New Mexico, grew apace throughout the week and promised to perhaps double the present possible yield within another fifteen days. More than a dozen completions are due in the field by the middle of July. The present potential exceeds 50,000 barrels daily.

Production possibilities were carried to present levels when Shell Petroleum Corp. completed its farthest northwest well in the field, No. 1 McKinley, 19-18S-38E, for maximum daily production of 10,880 barrels in the 4100-foot pay; the Ohio Oil Co. and Independent Oil & Gas Co., its No. 1 State, 32-18S-38E, for 335 barrels an hour maximum; and Prairie Oil & Gas Co. finished two wells in the older part of the field for large production. Prairie wells are Nos. 1 and 2 Crump, 15-19S-38E, in an area where earlier completions had made initials of 500 to 1000 barrels. No. 1 tested 1979 barrels in nine hours and No. 2 made 1080 barrels daily.

The week's operations were of routine character elsewhere in the southwestern territory, including Texas and Louisiana, except in Van Zandt county, Texas, northeast of the Van unit development. The Van field was extended two miles northeast to acreage outside the original unit area when Humble Oil & Refining Co. completed No. 1 E. E. Carroll at 2932 feet for "gusher" production. First reports indicate the well good for several thousand barrels on final completion.

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



Gasoline Stocks Cut 413,000 Barrels

By Telegraph

NEW YORK, July 1

STOCKS of gasoline at U. S. refineries were reduced 413,000 barrels in the week ended June 28, according to reports gathered by the American Petroleum Institute. Total stocks June 28 were 49,700,000 barrels. In the past two weeks stocks have been cut 2,504,000 barrels and since May 31 the reduction has totaled 3,615,000 barrels the institute reports indicate.

Only one refining district added materially to storage during the week. California refiners stored 138,000 barrels of gasoline. Louisiana and Arkansas refiners added 35,000 barrels to their reserves.

Texas refiners made the largest withdrawals from stock pulling out 192,000 barrels. Oklahoma-Kansas refiners were next with 185,000 barrels drawn from storage and Indiana-Illinois refiners followed closely with a gasoline stock cut of 123,000 barrels. Minor reductions were made in stocks in other refining centers.

Crude charges to stills were steady during the week, increasing only 6300 barrels daily average to 2,627,400 barrels per day. An increase of 15,700 barrels daily average was reported by California refiners and Oklahoma-Kansas plants charged 8600 barrels per day more crude to stills. Except for a small increase in Texas all others ran at a slightly lower rate than in the previous week.

Fuel oil stocks increased 675,000 barrels during the week to 139,437,000 barrels. On May 31 fuel oil stocks totaled 137,593,000 barrels.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels)			
		June 28	June 21	June 28	June 21	Gasoline June 28	Gasoline June 21	Gas & Fuel Oil June 28	Gas & Fuel Oil June 21
East Coast	100.0	497,400	504,200	81.9	83.2	8,163	8,196	9,208	8,774
Appalachian	91.0	78,000	79,000	66.9	67.8	1,638	1,682	882	757
Ind., Ill., Ky.	99.6	320,700	326,400	84.2	85.7	8,067	8,190	4,190	4,067
Okla., Kans., Mo.	89.9	295,300	286,700	71.0	69.0	4,609	4,794	4,715	4,725
Texas	90.4	607,900	603,100	85.3	84.6	6,802	*6,994	10,444	*10,481
La., Ark.	96.8	170,000	177,400	64.9	67.7	2,467	2,432	1,929	2,082
Rocky Mountain	93.6	65,700	67,600	47.2	48.5	2,704	2,713	1,196	1,174
California	99.3	592,400	576,700	66.5	64.7	15,250	15,112	106,876	106,702
Total	95.7	2,627,400	2,621,100	74.5	74.4	49,700	*50,113	139,437	*138,762
Texas (Gulf Coast)	100.0	452,600	453,100	86.0	86.1	5,606	5,807	7,466	7,501
La. (Gulf Coast)	100.0	114,900	123,100	77.9	83.5	2,066	2,037	1,135	1,226

*Revised.

New Petroleum Testing Methods Adopted at A. S. T. M. Meeting

By Arch L. Foster
N. P. N. STAFF WRITER

ATLANTIC CITY, June 27

TWO new tentative standard methods for testing petroleum products were adopted by Committee D-2 on Petroleum products and Lubricants at the annual meeting of the American Society for Testing Materials at Atlantic City June 23 to 27. The Reid method for testing the vapor pressure of natural gasoline has been recommended by the Vapor Pressure Committee of the American Petroleum Institute to the U. S. Bureau of Explosives and will probably be adopted as a revision of the Interstate Commerce Commission shipping regulations.

The second method is a test for dilution in crankcase oils, for the determination of which no method has as yet been adopted by the industry. It is the result of several years' effort to develop a dependable apparatus and procedure which would permit the determination of the amount of diluent present in the crankcase oil of automobile engines with reasonable accuracy and dispatch.

In addition to the new methods developed, revisions of standard and tentative standard methods were adopted; specifications of different petroleum products were discussed at considerable length, especially distillation and sulfur requirements of gasolines and motor fuels.

New Technical Committees Are Organized

The by-laws of the committee have been revised to provide for "technical committees" in addition to "subcommittees." The principal function of subcommittees is "to study methods of testing and to recommend revision of present tentative or standard methods and new tentative or standard methods as need arises," while that of technical committees is "to study the relation between test data and service performance of materials and to prepare and recommend material specifications."

Three technical committees have been organized as follows:

Technical Committee A on Gasoline (H. L. Horning, chairman, C. B. Veal, vice-chairman, and T. G. Delbridge, secretary);

Technical Committee B on Motor Oils (H. C. Mougey, chairman, and J. G. Detwiler, secretary); and

Technical Committee C on Fuel Oils (Including Diesel Fuels) (Lee Schneitter, chairman, Commander C. C. Ross, first vice-chairman, L. H. Morrison, second vice-chairman, and A. E. Flowers, secretary).

Technical Committee C on fuel oils (including diesel fuels) also functions as a sectional committee under the procedure of the American Standards Association with the A. S. T. M. as sponsor. Two important sections have been created; the section on domestic and industrial fuel oil (C. C. Ross, chairman, and H. F. Tapp, secretary), and the section on diesel fuel (L. H. Morrison, chairman, and W. H. Butler, secretary).

Former subcommittee XXX on fuel oils, which has been made a standing committee on fuel oils of the Commercial Standards Unit of the Department of Commerce, served as a nucleus of the section on domestic and industrial fuel oil and the Diesel Fuel Research Committee of the American Society of Mechanical Engineers served as a nucleus of the section on diesel fuels.

Subcommittees XVII on Gasoline, XXIX on Motor Oils, and XXX on Fuel Oils have ceased to exist, their functions being served by the new technical committees. Committee D-2, acting as the Sectional Committee on Methods of Testing Petroleum Products and Lubricants, functioning under the American Standards Association, recently submitted two test methods to the A. S. A. for approval. These methods have been approved, and their titles and A. S. A. Numbers are given below.

The A. S. T. M. Standard Method of Test for Saponification Number (D 94-28) (A. S. A. No. Z11t-1930), was approved as American standard.

The A. S. T. M. Tentative Method of Test for Detection of Free Sulfur and Corrosive Sulfur Compounds in Gasoline (D 130-27T) (A. S. A. No. Z11u-1930), was approved as an American Tentative Standard.

A revision of Standard Method D 86-27, Distillation of Gasoline, etc., (subcommittee VIII, E. W. Dean chairman), was adopted, which changed the manner of recording amounts distilled at the various temperature points, volumes of distillate being recorded at temperatures which are multiples of 10 C. Manipulation of the distillation near the endpoint was also changed in order to improve the accuracy of the determination of the endpoint.

Standard Method D 96-28, for Water and Sediment, etc., (Subcommittee XIV, H. R. Gunlach, chairman), was changed chiefly in more accurately specifying the dimensions and calibration of the centrifuge tubes. Standard Method D 97-28, for Cloud and Pour Points, etc., (J. B. Rather, chairman, Subcommittee XVI), was revised to provide for the cooling, to 60 F. in any convenient manner, of oils of very low pour point, before the insertion of the pour thermometer.

Tolerances in the dimensions and requirements for apparatus used in Standard Method D 187-27, on Burning Quality of Kerosene Oils, (Subcommittee XIX, J. B. Rather, chairman), were revised to permit the use of apparatus now obtainable without affecting test results. Changes were adopted as offered by the same subcommittee in Method D 219-27. On * * * Long Time Burning Oils, and D 239-27 * * * Mineral Seal Oil, which also affected chiefly apparatus design and dimensions.

Changes in Method D 216-27, Distillation of Natural Gasoline, (Subcommittee XXII, G. G. Oberfell, chairman), parallel those made in the method for distillation of motor gasoline, kerosene, etc., referred to above in clarifying the method of operation of the test at the end point, and to indicate the degree of accuracy which should be obtained in duplicate tests. Specifications for crucibles to be used in Method D 189-28, (Subcommittee XXIII, F. R. Baxter, chairman), for carbon residue, etc., were changed to allow reasonable tolerances for apparatus now in common use.

Tentative Methods Added to List of Standards

Tentative revisions of existing standard methods which were proposed last year (1929), were made standard, and incorporated in the following standard methods:

Standard method of test for viscosity of petroleum products and lubricants (D 88-26).

Standard method of test for dis-

tillation of gasoline, naphtha, kerosene, and similar petroleum products (D 86-27).

Standard method of test for Water in petroleum products and other bituminous materials (D 95-28).

These tentative revisions of standards are found in the Proceedings of the Society for 1929, vol. 29, part I.

Several comparatively small changes were made in the details of Tentative Standard D 287-28T, Gravity of Petroleum, etc., (Subcommittee II, K. G. MacKenzie, chairman), particularly that specifying that, in hydrometers with both gravity and temperature scales in the stem, the gravity scale shall be printed in black ink, the temperature scale in red ink, to avoid confusion of the two scales. Notations of temperatures in the two scales given in the methods are reversed so as to give precedence to Fahr. values.

Minor changes were also made in specifications for apparatus or in details of operation of the following tentative methods:

D 90-29T, for Sulfur in Motor Fuels, etc.;

D 91-29T, for Precipitation Number of Lubricating Oils;

D 270-27T, Sampling Petroleum and Petroleum Products;

D 85-29T, Distillation of Crude Petroleum.

Tentative Standard Method D 130-27T, for Detection of Free Sulfur and Corrosive Sulfur Compounds in Gasoline was recommended to be submitted to letter ballot for adoption as standard without revision; the method is found in the 1929 edition of A. S. T. M. Tentative Standards, page 373.

In addition the following tentative standards were recommended by the committee to be submitted to letter ballot for adoption as standard methods by the society, with more or less minor revisions:

D 127-28T, Melting Point for Petrolatum;

D 286-28T, Determination of Autogenous Temperatures;

Of particular interest to petroleum refiners are the details of thiefs suitable and acceptable for taking samples of petroleum and its products from drums and cans, and from tank cars. These apparatus were suggested by the subcommittee in order to bring the sampling method into line with that proposed by committee D-9 on methods of testing electrical insulating oils, in 1929. Details of these thiefs are given on pages 34 to 39 in the annual report of committee D-2.

Dr. G. Granger Brown of the University of Michigan, gave the essential results of four years' research carried out under his supervision by the Natural Gasoline Association of America, on the performance of motor fuels as determined by their physical and chemical properties. Dr. Brown showed the relationship between the distillation characteristics, the vapor pressures of motor fuels and the performance of the fuel in service.

Tentative Method of Test for Dilution of Crankcase Oils

CRITICISM of the tentative standard test for dilution of crankcase are invited by the American Society for Testing Materials. Such Criticisms should be directed to Dr. R. P. Anderson, secretary of Committee D-2, at 250 Park Ave., New York.

Following is the official apparatus and procedure in making the test:

1. This method is intended for the determination of the amount of dilution in crankcase oils, of engines when gasoline has been used as the fuel.

Apparatus

2. (a) General.—The apparatus shall consist of a glass flask, heated by a gas-burner flame, and provided with a reflux water condenser discharging into a trap for collecting the distillate. The trap serves to collect and measure the diluent, returning condensed water to the still.

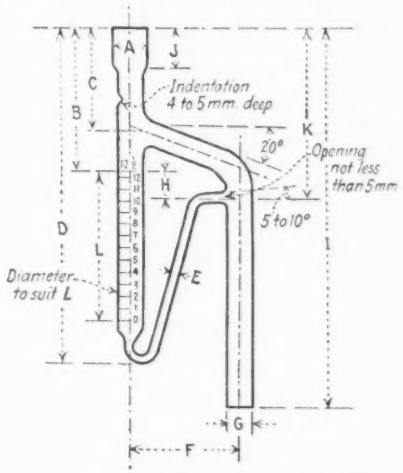


Fig. 1 A.S.T.M. Dilution Trap

Trap shall be graduated from 0 to 12.5 ml. in 0.1 ml. divisions.

	Inside Diam.		Inside Diam.
A	18 to 20 mm.	G	11 to 15 mm.
B	85 to 90 mm.	H	15 to 20 mm.
C	70 to 75 mm.	I	230 to 250 mm.
D	200 to 225 mm.	J	25 to 30 mm.
E	4 to 5 mm.	K	100 to 110 mm.
F	65 to 75 mm.	L	90 to 100 mm.

(b) Trap.—The trap shall be made of well-annealed glass constructed in accordance with Fig. 1. It shall be graduated from 0 to 12.5 ml. in 0.1-ml. divisions. The error of any indicated capacity shall not be greater than 0.05 ml.

(c) Flask.—The glass flask shall be of the short-neck, round-bottom type, with a nominal capacity of 1 liter.

(d) Condenser.—The condenser shall be of the water-cooled, reflux, glass-tube type, having a condenser jacket not less than 400 mm. (15¾ in.) in length with an inner tube 9.5 to 12.7 mm. (⅜ to ½ in.) in outside diameter. The end of the condenser to be inserted in the trap shall be ground off at an angle of 60 degrees.

(e) Burner.—The gas burner shall preferably be of the Meeker type, 1 in. in diameter, and the orifice used should be such that a narrow flame coming to a point about 4 in. above the top of the burner can be obtained.

Procedure

3. The sample shall be mixed thoroughly, 25 ml. measured into a 25-ml. graduate and transferred to the flask. By washing out the graduate with hot water only a negligible amount of oil will be left in the graduate. Approximately 500 ml. of water shall then be added to the flask and the apparatus shall be assembled, after filling the trap with water. The tip of the condenser shall be placed directly over the indentation in the trap.

Heat shall be applied with the full flame as indicated above. The rate (Note 1) shall be such that refluxing starts within from 7 to 10 minutes after the heat is applied, the water being at room temperature initially. The success of the method depends upon heating at such rate that boiling is continuous and vigorous enough to prevent the oil from forming, even momentarily, a continuous film on top of the water. (Note 2)

Readings of the amount of diluent shall be made at the following times, taken from the time that refluxing starts: 5, 15 and 30 minutes, and each 15 minutes following, until the test is complete. Completion of the test shall be determined on the basis of either or both of the following criteria:

No. 1.—Test is complete when the volume of diluent increases by not more than 0.1 ml. in any 15-minute period during the course of the test.

No. 2.—Test is complete when the volume of diluent obtained in a given time indicates completion, as follows:

Time from Start of Refluxing	Test is Complete if Apparent Volume of Diluent Collected is Equal to or Less Than
5 minutes	0.1 ml.*
30 "	2.0 ml.
60 "	4.0 ml.
90 "	7.0 ml.

*Report as "no dilution."

Note 1.—As a check on the rate of distillation, a determination may be made on a fresh oil containing 15 per cent of added diluent. The oil used should have a flash point of 400° F. or over and the diluent used should have an initial boiling point of 300 to 320° F. and an end point of 400 to 420° F. At least 13.5 per cent of the diluent should be obtained by this method on boiling for 60 minutes.

Note 2.—Bumping with a tendency to froth over is often experienced with dirty oils and may be prevented in several ways, namely, by the addition of bits of broken glass, by the addition of steel wool, or by the addition of about 5 ml. of concentrated HCl.

In most cases, criterion No. 1 defines the completion of the test, but when the test continues to a point where any of the conditions described under criterion No. 2 are encountered, the latter shall define the completion of the test.

When the test is complete by either of the criteria above the heat shall be turned off. After standing at least 15 minutes, to allow the distillate to settle clear and to cool to approximately room temperature, the volume of diluent shall be read. The percentage dilution is obtained by multiplying this final volume by 4.

4. Determinations by independent operators should agree within 20 per cent for dilutions under 5 per cent and within 10 per cent for dilutions over 5 per cent. Duplicate determinations by the same operator should, in general, show a closer agreement than the above.

Prepare Sulfur Compound Bibliography

CLEVELAND, June 30—The American Petroleum Institute announces that it is publishing for the benefit of the petroleum technologists of the country and others who may be interested, a bibliography on sulfur compounds in petroleum.

The publication of the book has resulted from the association of Dr. Parry Borgstrom with a fundamental research project on sulfur at the Johns Hopkins University, Baltimore, which is under the direction of Dr. E. Emmett Reid, and financed by the Institute from funds donated by John D. Rockefeller.

Dr. Borgstrom began collecting literature references while associated with the sulfur research project, and has continued the work since severing his connection with the investigation. The bibliography will be printed soon as the work of Drs. Borgstrom, Bost, and Brown. Dr. Borgstrom is now with the Naval Research Laboratory, Anacostia, D. C.; Dr. R. W. Bost is Professor of Chemistry at the University of North Carolina; Dr. D. F. Brown is Librarian of the Standard Development Co., Elizabeth, N. J.

The bibliography will contain 250 to 300 pages, and will include nearly 4000 references to the literature and patents, on sulfur compounds that may occur in petroleum, and to their properties, uses, and methods of removal from petroleum products. No attempt has been made to include references to sulfur compounds containing nitrogen, sulfur dyes, or biological compounds, especially where monographs on these compounds are already available.

The number of copies of the bibliography to be printed, and the sales price will be governed by the orders received prior to August 1, 1930, except that the price per copy will not exceed $4.00, according to institute officials. Orders should be sent direct to the institute headquarters at 250 Park Ave., New York City, and will be filled after Sept. 1, 1930.

Spang, Chalfant to Merge With National Supply

CLEVELAND, June 30.—Plans for the merging of the National Supply Co. and Spang, Chalfant & Co., oil and gas field supply manufacturers, are being completed.

National, subsidiary to National Tube Co., a subsidiary of U. S. Steel Corp., proposes to increase its capital stock from 80,000 to 200,000 shares of preferred stock, and from 340,000 to 500,000 shares of common stock.

The merger is to be effected by exchanging one half share of National common and one half share of National preferred for each 3¼ shares of Spang, Chalfant common stock, it is reported. Official announcement of the terms is expected shortly.

Bonds and preferred stock of Spang, Chalfant will not be affected by the merger, it is reported.

National Supply Co. markets the output of the National Tube Co. and supplies, including engines of other manufacturers and specialties made by itself, through 100 stores in the important oil and gas fields. Spang, Chalfant manufactures steel pipe up to 24 inches in diameter as well as seamless tubing and oil field specialties.

Assets of the combined companies will approximate $80,000,000.

Connecticut Motor Oil Law Is Contested

NEW YORK, June 28.—The question of whether a state may stipulate the grade of motor oils that may be sold within its borders is being debated before a constitutional court in Connecticut.

That state has a law that specifies that no motor oil shall be sold there unless it meets or is better than the U. S. standard specifications as set by the U. S. Bureau of Markets.

The law is being contested by the Atlantic Refining Co., Gulf Refining Co., Sinclair Refining Co., Standard Oil Co. of New York, Beacon Oil Co., Shell Eastern Petroleum Products, Inc., Tide Water Oil Sales Corp., Vacuum Oil Co., The Texas Co., and Mexican Petroleum Co.

219,000 Lbs. of Foamite Rushed to Oil Fire

CLEVELAND—Oil fires have the spectacular flare that makes interesting copy for the daily newspapers. But back of the scenes there is another story that seldom reaches the public, the efforts to extinguish a fire consuming thousands of gallons of oil and ruining valuable storage tanks.

Take the recent fire of the Gulf Refining Co.'s terminal and refinery at Bayonne, N. J. A small motor boat was leaving the pier after taking on a cargo of gasoline. The motor backfired, and soon the terminal was on fire.

Neighboring oil companies, and local fire companies sent their equipment. And the American-LaFrance & Foamite Corp. went into action to supply foamite generator powder from its plant in Elmira, N. Y. A total of 219,000 pounds were shipped to the fire.

The first call for powder came on the afternoon of Thursday, May 8 when the fire was at its height. The call was for 500 pails of generator powder from the Long Island office. The shipment was on its way in less than an hour and the chief engineer of the Foamite division went to the fire to assist the work.

On the same afternoon a call came through to the Elmira plant for a car load of powder. In 45 minutes an express car was located in a nearby town, and was attached to an express train ready to leave Elmira. The car was loaded from the trucks in 11 minutes. Eleven hours later the car with 33,000 pounds of powder was at the fire. A second car, with 30,000 pounds of powder, was attached to a freight train in Elmira that afternoon, reaching the fire early Friday morning.

About 11 p.m. Thursday a third call was made on the plant and in two hours and 14 minutes 46,000 pounds was on its way, reaching Jersey City at 8 a.m. Friday. After this car was gone another was loaded with 33,000 pounds of powder, and reached Jersey City at 3:30 p.m. Friday. Executives were called to augment the skelton night crew in loading the cars. Some workmen stayed on the job as long as 69 hours.

Late Friday night a car with 48,000 pounds of powder was on its way. This powder had to be trucked three miles from the companies experimental station near Elmira, and reloaded into cars. Through Saturday night and Sunday morning three smaller shipments, of 10,000, 13,000 and 6,000 pounds, were sent from the Elmira plant as a precaution against the fire breaking out again.

Besides the powder shipped from Elmira four Foamite generators were sent to the fire to augment the equipment at the plant.

Institute Seeks Data on Minimum Working Stocks of Gasoline

CLEVELAND, July 1

AS A part of its campaign of education in the economics of gasoline supply and demand, the American Petroleum Institute will collect figures which will indicate the volume of gasoline necessary to be carried as working stocks by refiners.

Decision to make the survey was reached by directors' meeting at New York June 25. The undertaking was suggested by the statistical advisory committee.

E. B. Reeser, president of the institute, issued a statement in which he said that the present curtailment in crude oil production has been accomplished only after two years of intensive work toward that end. In the case of the refining branch of the industry he pointed out that limitation of output to the level of demand cannot be accomplished legally through agreement. He said that the American Petroleum Institute will make no effort to bring about such an agreement.

"The institute is attempting to educate refiners individually along the line that they do not need large stocks of gasoline," Mr. Reeser said. "Nearly every company has ample facilities to meet demands made on it when running plants on a demand basis.

"We have not made as much progress in this direction as we had hoped, but we do see a definite inclination toward adoption of an operating basis by individual companies which will reduce present abnormal stocks to a reasonable amount. Since June 1 the decrease in refinery stocks has been approximately 2,250,000 barrels, which is at a greater rate of decrease than for any like period.

"We have stabilized the production of crude oil and, in my opinion, refiners will see that stabilization is in their interest too, and their companies individually then will curtail production of refined products."

At present there seems to be an inclination on the part of refiners in the Mid-Continent field and in the Central States to reduce their output temporarily in order to enable them to work down their present storage to more reasonable levels. Several refiners in the middle west have reduced their output from 10 to 50 per cent and a quick survey by this publication indicates that there may be a reduction there in July ranging from 10 to 15 per cent generally below the May-June rate of manufacture.

The current statistical position of the Mid-Continent field is about as satisfactory as that of any major group in the country and far better than some, and yet it is far from being ideal. Gasoline shipments from Mid-Continent refineries have been running more than 20 per cent ahead of last year so far this month, but the present heavy sales volume is only making up for an unsatisfactory level of business transacted in May.

On April 25 the 93 refineries covered by weekly reports gathered by this publication held in storage 142,560,000 gallons of gasoline. This compared with 143,032,000 gallons on April 26, 1929. Stocks thus were a half million gallons below the previous year.

The next week saw a substantial change. Stocks rose to 145,062,000 gallons by May 2 while, in the corresponding week, the previous year stocks had been cut nearly two million gallons to 141,237,000 gallons.

Throughout May gasoline stocks continued to rise in the Mid-Continent until, on May 30, the 93 reporting plants showed a reserve of 165,185,000 gallons, an increase of 22,625,000 gallons in 35 days when it might normally be expected that stocks would decline. The previous year stocks had dropped about four million gallons in the 35 days.

As mentioned previously June business has been excellent in the Mid-Continent but crude runs have been kept up to a point where the stock reduction has not been great. Total reserves at the reporting plants on June 20 this year were 158,261,000 gallons, a reduction of nearly seven million gallons in 21 days.

It is estimated that Mid-Continent refiners could reduce their storage of gasoline to approximately the last year's level in July by cutting their output 10 per cent. Similar reductions in output in other districts could make satisfactory inroads into stocks, although in some cases a single month's reduction would not get reserves back down to the 1929 level.

An accompanying table gives a brief summary of the operations of the 93 Mid-Continent plants for the first 25 weeks of 1930 compared with the same period last year. It shows an increase in gasoline output of 6.5 per cent and an increase in shipments of 9.0 per cent.

Bureau of Mines figures for the first four months of the year show that, at the end of April, the entire Mid-Continent had increased gasoline output 11.4 per cent, shipments 16.2 per cent and gasoline stocks only 0.9 per cent over the same four months in 1929.

All United States refineries had increased their production 7.3 per cent, shipments 10.3 per cent and gasoline stocks 15.8 per cent.

The American Petroleum Institute has estimated that in May U. S. gasoline output was 7.53 per cent over May, 1930, imports 142.53 per cent greater and total new supply 10.9 per cent greater. The institute has estimated that domestic demand was 8.05 per cent greater in May than in May, 1929, but that exports dropped 5.64 per cent so that total demand was only 6.22 per cent greater.

An estimate also has been made that stocks were reduced 1,047,000 barrels in the month to 53,375,000 barrels. The stock increase in the first five months thus was 10,260,000 barrels. Stock on May 31, 1929, totaled 44,548,000 barrels, or about nine million barrels less than this year.

The institute finds that, in the first five months of the year, gasoline production has been 7.32 per cent

Comparison of total crude runs, gasoline production and shipments at Mid-Continent refineries for first 25 weeks of 1929 and 1930

(Figures based on weekly operations reports from 93 refineries to NATIONAL PETROLEUM NEWS.)

Year	Total crude runs (Bbls.)	Total gasoline Prod. (Gals.)	Total gasoline Ship. (Gals.)	Stock increase for period
1930	60,031,510	1,176,339,000	1,148,760,000	27,633,000
1929	59,633,798	1,104,683,000	1,053,452,000	51,231,000
Increase 1930 over 1929	397,712	71,656,000	95,254,000	.....
Weekly Avg. increase	15,908	2,866,000	3,810,000	.....
Per cent increase	6.7%	6.5%	6.0%	.....

greater than last year, imports 133.70 per cent greater and total new supply 3.34 per cent greater.

Comparing demand this year with last the institute finds domestic demand to be up 9.84 per cent, exports up 16.73 per cent and total demand up 10.83 per cent over the first five months of last year.

In gasoline production the institute figures for the first five months show California to be only 0.94 per cent above last year while East Coast refiners have increased their output 14.91 per cent, Indiana-Illinois refiners 14.28 per cent and Texas refiners 13.44 per cent. Other groups east of California show increases less than the rate of increase in national demand.

Latest "Cooperative" Cut Rate Tulsa Station Fails

TULSA, June 28

TULSA'S latest edition of the cut-rate service station, embossed with a "co-operative" wrinkle to attract customers, quietly has gone out of print. Finding the venture a losing one from the start, J. W. Crabtree, the proprietor, decided that enough was enough and quit business.

The Crabtree Service Station was to be a co-operative place. "Memberships," at a dollar apiece, were solicited, the membership cards entitling the owners to two cents off the regular service station price of gasoline, fine cents a quart on oil, and half price on washing and greasing jobs.

But it wouldn't work. Even the several hundred who joined the movement for cheaper gasoline seemed lethargic about coming and buying, although the plan called for the return of the dollar after purchases had reached a certain amount. The total distributed per day was around 200 gallons, less than half the amount required to make the enterprise a success.

The members who had patronized the establishment to any extent before it closed its doors, had a portion of their dollar membership fee back in the reduced prices that they paid for gasoline. Those that hadn't bought much still had their cards.

Just why the prospective customers of the establishment should have been charged a dollar a head for the privilege of doing business with Mr. Crabtree is not exactly clear. Why the customers should have paid it, is also something of a mystery. The point in setting another man up in business, or helping him to set himself up, is generally to have some sort of interest in the concern.

Under the "co-operative" phases of the scheme described, the contributors paid to establish the station, but had no share in the profits, if any. When the establishment failed, they were still allowed to help pay for the experiment.

Mr. Crabtree said that he had lost some ten dollars a day while the station stayed open, that it appeared after some six weeks that the people didn't appreciate what he was trying to do for them, so he quit.

The Crabtree Service Station, recently closed, adding another to the list of cut raters with "co-operative" features that haven't made the grade.

The Service Record

Some of the requests for information, data and advice, which were taken care of in various National Petroleum News offices in the past week are:

Road materials engineer in Canadian university given information about burning bitumen obtained from Alberta's bituminous sands in oil burners.

Mid-Continent operator given information regarding the Garber, Okla., field as a guide to locating a wildcat to be drilled in that vicinity.

District production engineer gave National Petroleum News data concerning what he believes is an oil swindle in California with the suggestion N.P.N. investigate it.

Oil company geologist given data regarding the conservation movement under way in Texas.

Oil engineer sent data concerning general character of royalty ownership in southwestern New Mexico.

State geologist given data on prorating practice generally as related to conservation movement.

Firm of accountants given information about practice of oil companies in field purchases of natural gasoline.

Chicago oil company given tank wagon prices on gasoline at Colorado points.

A New England district manager for a large oil company asked about the ratio of fuel oil output to crude output in the U. S. in 1929. N. P. N. worked up tables for him showing the volume of crude charges to stills the past five years, amount of gas and fuel oil production, per cent of yield from crude, domestic consumption and exports; crude production, imports and new supply and ratio of gas and fuel output to total crude supply for five years past.

Technical man of national oil company furnished information to help him in survey of gasoline and lube oil market; figures on domestic demand of both products for past three years, per cent increase each year and so on.

President of a Mid-Continent refinery given the ratio of sales of Ethylized and other premium gasolines through the country in 12 states.

A large middlewestern refiner furnished all Q. D. A. changes on gasoline in the Standard of Indiana and Standard of Ohio territories.

A refiner with plants over the country given gasoline consumption by months for six states in 1929.

A prominent eastern oil and gas engine manufacturer referred to 60 air and gas lift and flowing device articles published in National Petroleum News the past two years.

A Northwestern jobber who asked several sources, including N. P. N., for articles published on roadside stations with hotel accommodations, was referred to six such articles. A letter of acknowledgment says the prompt attention given his request was "miles ahead of anybody else."

An Oklahoma refiner supplied monthly average prices of fuel oil from Jan., 1929, to date.

Chicago advertising agent given information on the relative value of Pennsylvania and Mid-Continent crudes.

A Houston producer furnished copies of booklets on oil field methods and practice published by N. P. N.

Telegraphic inquiry from an eastern refiner-marketer about various grades of crudes.

A national producer association member furnished information on oil production in New Mexico.

A Mid-Continent geophysicist, an eastern refiner and a southwestern oil accountant stopped at N. P. N. Houston office to discuss oil conditions generally.

A western state geologist was furnished data on prorating.

A Houston man acknowledged service given him by N. P. N. on plan to work his way through petroleum engineering course at a Mid-Continent university.

A Cleveland inquirer was furnished information about sources of oil products he wanted.

Town Lot Wells of Oklahoma City Pool Have Small Chance to Pay Out

By William F. Lowe
N. P. N. STAFF WRITER

OKLAHOMA CITY, June 21

TOWN lot wells on Oklahoma City may come in big, but what of it? It does not necessarily follow they will be paying ventures. The promoter of the well on the small lease is more likely to make money on his promotion than from his well. Any number of factors point toward this conclusion.

The consistency of sand production has lead to an over-optimistic view of the field's potentialities. Just because these wells have averaged around 10,000 barrels initially is no reason for believing that they will all be bonanzas.

Already there is enough data to prove a good portion will do well to pay out. This is particularly true of wells on five acres or less. Even the larger companies are aware of this fact and their production costs are considerably less than those of the individual operator.

The factors indicating that losses will be taken in the closely spaced area seem more or less obvious. The high cost of drilling the 6500-foot holes, the already big decline in rock pressures and the eventual high lifting costs should give pause to the over-ambitious operator who would drill the small parcels.

There is a question whether some larger producers will be able to do more than break even. One major company already admits the possibility of being in the red when the whoopee is over at Oklahoma City. Its wells are on 10 acre locations at that. True, some are lime wells, but declines on its sand wells are such they may not offset the failure in the lime.

The proration program now in force and the drop in well initials are two other reasons why lot drilling is uneconomic. Following its completion a well must be shut down for 65 days and then can produce but one day in six. Such a system entirely eliminates the advantage of bringing in a well in a new area. Producing but once a week while offsets are busy knocking the edge off the rock pressure is no fun.

There certainly is no denying the fact that initials have begun to decline. This, however, does not mean that there will be no more 15,000 or 20,000 barrel wells brought in. It is but an indication of declining possibilities in closely drilled areas. The field is still flush and first wells in a new territory may very possibly have either figure for a first 24-hour gauge. But after taking its shut down time its offsets are either in or about to be. The well's first allowed flow period invariably shows the effect and a loss of from 1000 to 5000 barrels is the result.

AN OUTSTANDING example of the loss from these causes is found at the south end of the pool in 31-11-2W. Almost a wildcat when it was first drilled in Dec. 29 last, its initial was 32,832 barrels, an unusually large well even for Oklahoma City. On Feb. 10, after the shut down period, its first allowed flow was 25,120 barrels, a loss of over 7000 barrels. In the meantime, several offsets had been brought in.

This well's most recent gauge was less than 10,000 barrels. It has been open but 15 days since completion six months ago, yet the total production is over 250,000 barrels. It is now in the velvet, but the decline has been very rapid. If regular 660-foot offsetting can do this to so big a well, what will be the effect on much smaller ones less than 100 feet apart? A 10,000 barrel well with the same decline would already be a liability.

The well cited is an exceptional one only in point of size. As shown on accompanying curves its decline is paralleled by a number of other wells in the field. Fig. No. 1 presents a composite of eight representative wells, all producing from the sand, around the structure. It illustrates the projected decline of the average wells over one year. It is not however, a daily average, but is based on the present proration schedule of producing wells one day in six.

The lower curve is made without using the large well mentioned above and gives an idea of what can be expected of wells with an average initial of 11,000 barrels. All the wells were on regular locations and came in during the closing months of last year. All had the advantage of the early high rock pressure. When these facts are considered, it seems apparent their declines will not hold for the wells that have come in since. Later wells will fall off more rapidly especially where drilled so much closer together. The reason for expecting this to be true is that rock pressures have fallen from an initial of 2200 pounds to an average of about 1500 pounds.

ON THE south end of the gold rock pressure has registered as low as 700 pounds in the sand wells and almost entirely disappeared in the lime wells. All the earlier sand wells have shown this same decline and few of them have been allowed to produce more than 20 days in the last six months. The conclusion to be drawn from these findings is anything but encouraging to the townlotter. Nor does it augur well for the ultimate per acre recovery of the whole field.

If, after being open for but 20 days these wells drop half their original production and rock pressures, why the optimism? There are but three leases in the field that have made more than 1,000,000 barrels and there

Work Started on New Ajax Pipe Line

TULSA, June 28.—First pipe for the Ajax Pipe Line Co.'s new system, Glenpooly district, Okla., to Wood River, Ill., was laid the past week. Work was begun at the western end, where operations, owing to lease congestion, are principally by hand.

Within two weeks four crews will be at work, laying at least one mile per day each crew and after that the work will be speeded up still more. Tentative plans call for having the two 10-inch lines laid and ready to run oil by Jan. 1.

Reports have been in circulation in Tulsa that one of the lines is to be used for transporting gasoline. Ajax company executives assert that such use is not planned. The rumor arose because of the fact that pumps have been purchased of the type that can quickly be converted from their crude oil use to that of gasoline.

Work has been started on two of the pump stations, near Pryor and Afton, Okla.

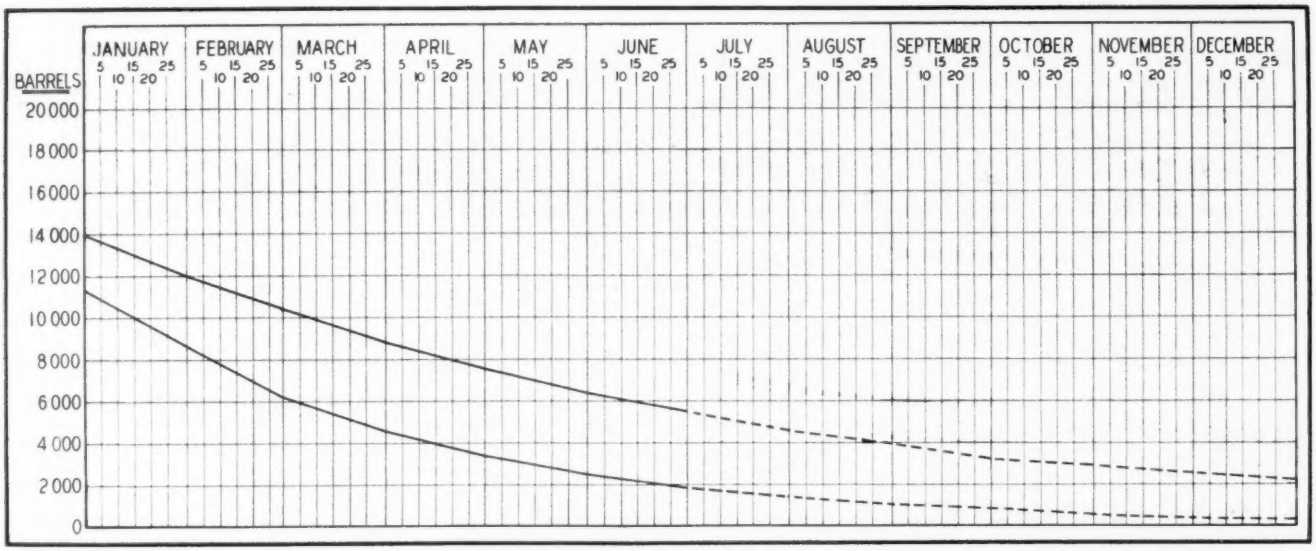


Fig. No. 1. Composite curves made on eight sand wells in the Oklahoma City pool. The wells chosen encircle the structure and are fairly representative. The upper curve shows the projection of all eight wells and the lower was made without using the figures of the one unusually large well cited in the text. Note how the curves parallel each other. The figures given must not be taken for daily averages such as are commonly used for the purpose in other fields. They represent the allowed production of but one day in six. For the period given, the wells of this group have averaged but 15 days on production

might have been a dozen if the rock pressure had been maintained. The faster wells have been brought in, the faster has the gas been dissipated with the present production methods. The result is that wells yet to be completed will not have the yield that they otherwise might have had particularly in the closely spaced area on the north.

The large figures connected with all the operations in the Oklahoma City pool have staggered too many imaginations. Too many people are taking them literally. Because the estimated potential daily yield is around 1,400,000 barrels is no reason for believing the field could do that for more than 48 hours. At the end of one week it is doubtful if it would be making half that amount. Fig. 2 shows the average daily yield of wells allowed to produce during any given week. Note its decline and the average per well.

It is true that all the lime wells are included. Most of these are making water in varying amounts up to 99 per cent. Their oil production is almost gone and they have a decided drag effect on the curve for the field. However, the figures as a whole give a fairly accurate indication of what is going on.

Holes as deep and expensive as at Oklahoma City should pay out with the flush production to make them a good investment. Putting them on either the gas lift or the pump is going to introduce some new and high figures for lifting costs. On this basis then, the flush recovery should be at least 20,000 barrels to the acre. An additional 5000 or possibly 10,000 barrels, to come by the other production methods, would put a fairly nice balance on the right side of the books.

PRESENT engineering estimates indicate that the average yield per acre is not very likely to exceed 25,000 barrels. That it will be considerably less on a majority of leases is more than a possibility. However, for the operator whose wells are on regular 10-acre locations, this recovery would be a good return. To the producer on a few town lots, where wells are spaced as high as five to a 10-acre piece, it would not even pay the contractor. Where then does the investor in fractional units of such operations expect to make any money?

On the lease mentioned above where five wells are drilling on a single ten-acre piece, all estimates must be revised. To make these wells pay out, a recovery of approximately 120,000 barrels to the acre would be necessary. To get such a yield would require a saturated sand thickness of

W. C. Franklin Resigns as Tidal Officer

TULSA, June 28.—Wallace C. Franklin, nationally known executive of the Tidal Oil Co., has resigned, effective July 1. He will continue to live in Tulsa and will remain in the oil business. He has not announced his plans other than in these general terms.

Mr. Franklin is one of the outstanding members of the bar of Oklahoma. He came to Tulsa more than 12 years ago as counsel for the Tidal and affiliated companies and six years ago was elected a vice president, heading the legal department.

As a director of the American Petroleum Institute and a leader in the Mid-Continent Oil & Gas Association, Mr. Franklin has been a leader in conservation work. He was chairman of the interior regional sub-committee of the so-called Holmes committee of the A. P. I. which worked out a plan for balancing production and consumption early in 1929. He has a broad knowledge of the economics of petroleum and has served ably in devising the plans under which the Mid-Continent field has restricted its production the past three years.

W. C. Franklin

Whether you prefer the *Stuffing Box* ABOVE *or* BELOW the Valve—

Type A
Truck Tank Faucet

If you prefer the stuffing box *above* the valve, Type A should be your choice. For fifteen years Type A has served the oil industry—and for fifteen years Type A has steadfastly maintained its reputation for *flawless performance.* Today, with many of the finest oil companies in the United States, it is *standard equipment!* The transparent view at the left shows the internal structure, and how it operates. Like all Wheaton Faucets, Type A is *self-closing*—the operator must *hold* the valve open, as it closes the instant the wrench is released.

the best of either type of faucet is a WHEATON

Type 24
Truck Tank Faucet

If you prefer the stuffing box *below* the valve, Type 24 is the finest faucet your money can buy. It is *counterbalanced*—and that *assures* slow, smooth, easy action. The transparent view at the right shows the internal structure of this faucet. When the valve closes—as the plunger goes down—the chamber above the counterbalance flange must fill, and to do so the liquid must pass between the close-fitting flange and the chamber wall. The slow, gentle closing action of Type 24 relieves both the faucet and the connections of all vibrations and shocks.

DO you prefer the stuffing box *above* or *below* the valve? That alone determines your choice between these two Wheaton Faucets. In either case, you are certain of securing *the finest faucet of its type ever built.* And, whether you choose Type A or Type 24, depending on your preference of design, you will be selecting a faucet that is typically *Wheaton* in design—Wheaton in material and craftsmanship, too. And that means a faucet that is made of special-analysis bronze, which neither crystallizes nor corrodes; a faucet built to designs drawn from years of experience and study; a faucet, finally, which has that precise *fit* and perfect *finish* which are found in all Wheaton products.

We will gladly send you a sample of either or both of these two Wheaton Faucets for a 30 or 60 days' trial. If it does not prove entirely satisfactory, you may return it for credit or refund.

A. W. WHEATON BRASS WORKS
Newark, New Jersey

Empire Brass Mfg. Co., Ltd.,
London, Ontario,
Canadian Manufacturers and Distributors.

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

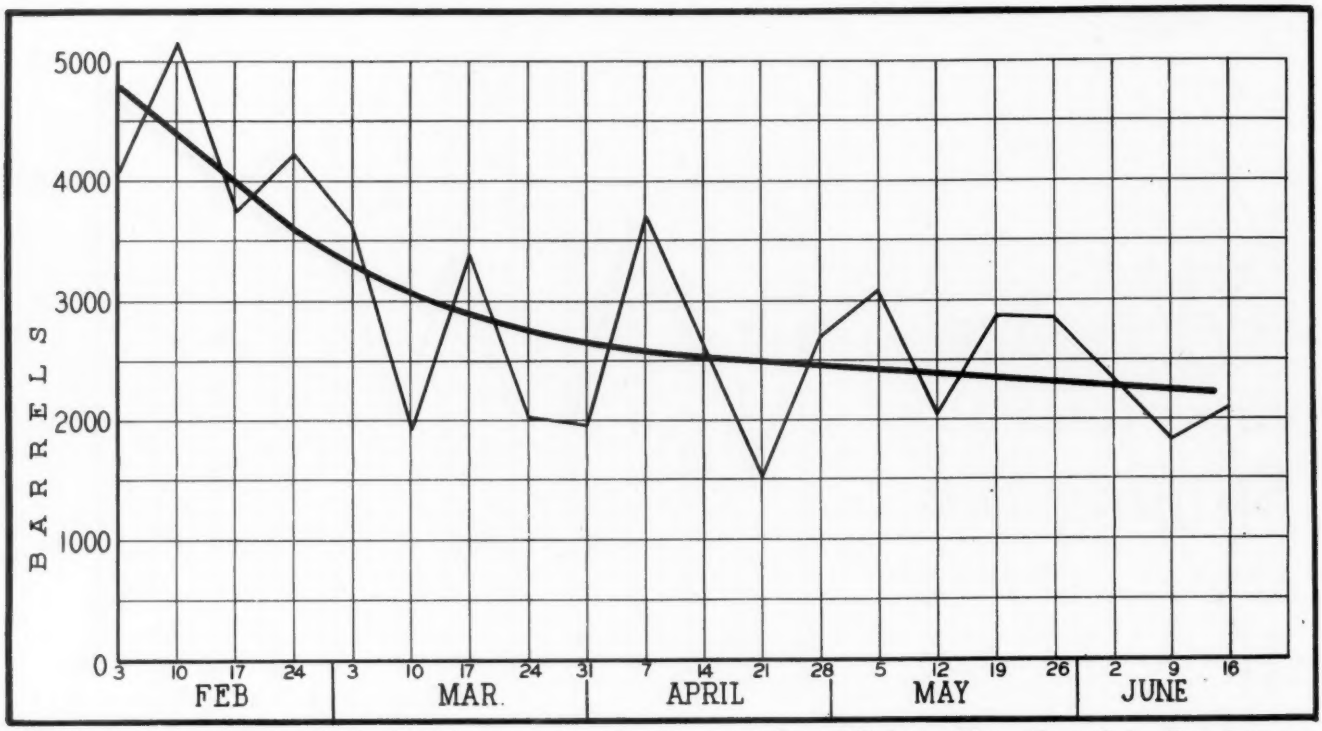


Fig. No. 2. Curve showing decline in daily average production per well at Oklahoma City. No well is allowed to produce more than one day in six and the above figures are the result of averaging the producers by weeks. Both lime and sand wells are included. Note the decline, though the wells that have produced more than 15 days during the whole period are decidedly few

about 130 feet and a porosity of 20 per cent. It might be possible to get 130 feet of pay sand, though it is very doubtful if much of it would be saturated. The average over the field is about 90 feet and the upper portion is frequently heavy gas. The porosity is about the normal average.

A conservative estimate of the average total cost of these five wells, drilling and operating, is $200,000 each. Deducting this $1,000,000 pro-

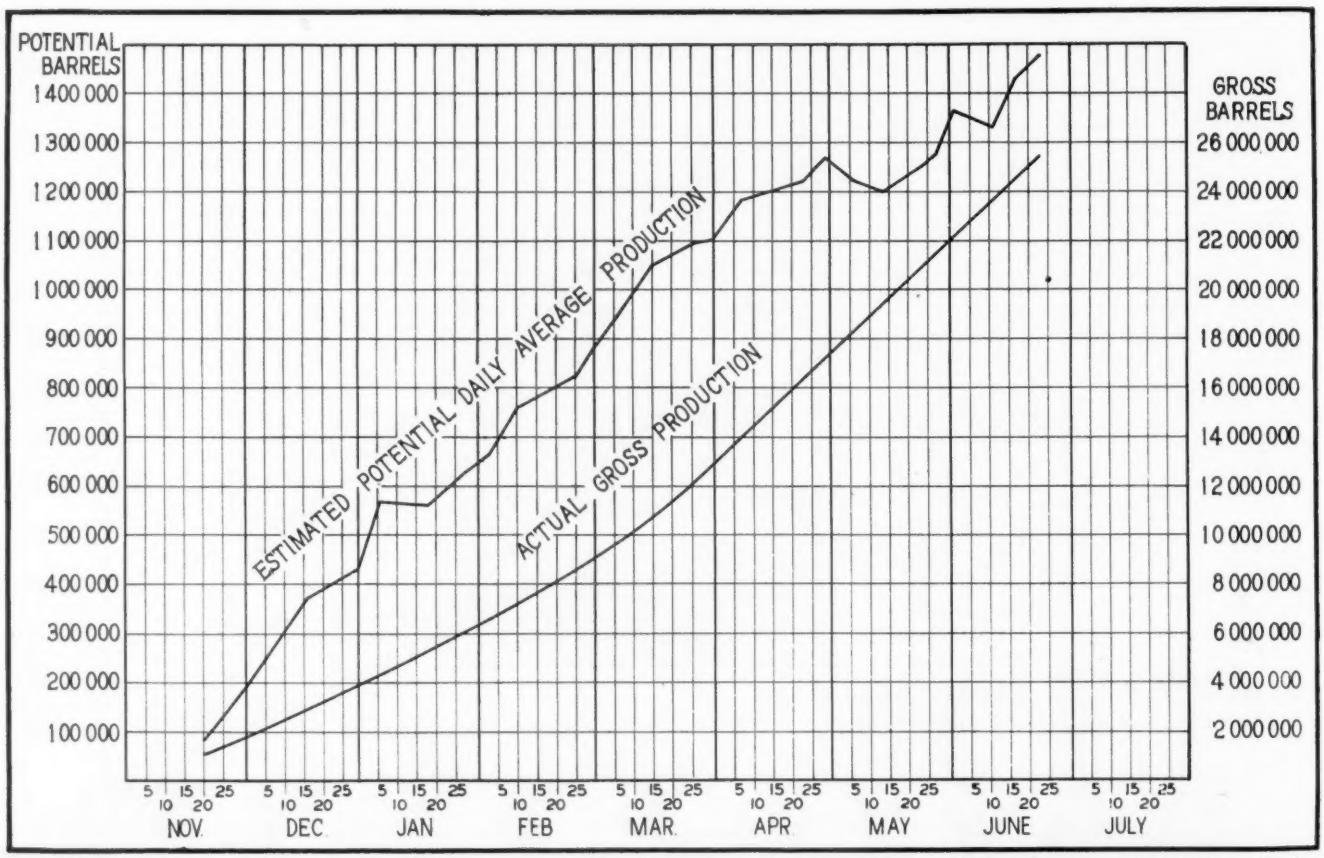
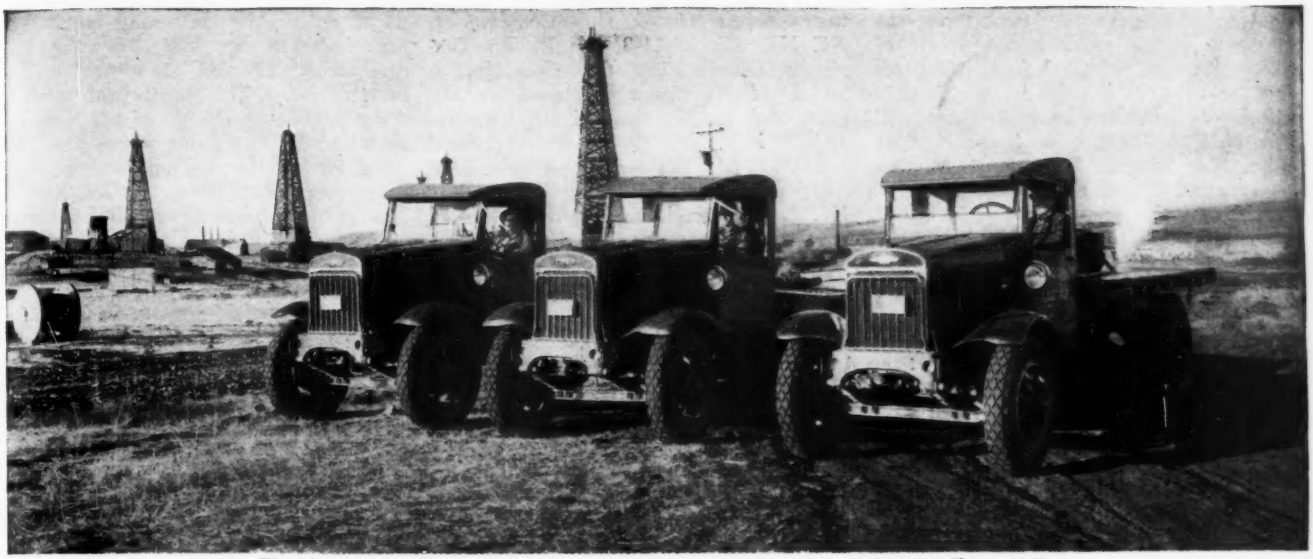


Fig. No. 3. Curve on the potential daily average production. It is based on the completion figures submitted to the local umpire. To date, the average number of wells producing on any given day has been less than 50. The curve represents the total possibilities of all the 311 completed wells. It is commonly believed that, if all the wells were opened, the field would be down to half the amount shown above in 48 hours



Three International Heavy-Duty Trucks owned by W. S. Herron, lined up on location in Turner Valley

Internationals Aid in Developing Turner Valley

Motor trucks are figuring in a big way in the development of Turner Valley, Canada's largest oil and gas field. The nearest railroad sidings are at Okotoks, 16 miles east of the main producing wells. Heavy drilling equipment, line pipe, derrick timber, and other supplies in large quantities must be transported by trucks from this base of supplies to various locations in the Valley.

International Trucks are in the thick of work in Turner Valley as they are in other oil fields. W. S. Herron of Calgary, Alberta, pioneer Turner Valley operator and official of several oil companies, is a prominent user of Internationals. He likes his Internationals because they are big and sturdy. They haul a complete cable drilling outfit anywhere over the rough hilly country of the Valley. In his opinion, Internationals are the only trucks used in the Valley that appear to be made for the work and that stand up under the hard grind.

Each International is equipped with a winch which is used to load and unload heavy equipment, to assist in erection work at location, and in emergencies, to winch the truck itself or other trucks up steep inclines or out of mud or soft sand. Many times the Internationals have been called on to transport equipment when other hauling units have failed to come through with their loads.

The performance of International Trucks in Turner Valley bears out their superiority for oil field work. Ask the nearest Company-owned branch to put an International under your loads for a demonstration. Then pick out some tough going and watch it perform.

The International Line includes the ¾-ton Special Delivery; the 1-ton Six-Speed Special; Speed Trucks, 1¼, 1½, 2, and 3-ton; and Heavy-Duty Trucks to 5-ton. Sold and serviced by Company-owned branches throughout the oil country.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. of America (Incorporated) Chicago, Illinois

INTERNATIONAL

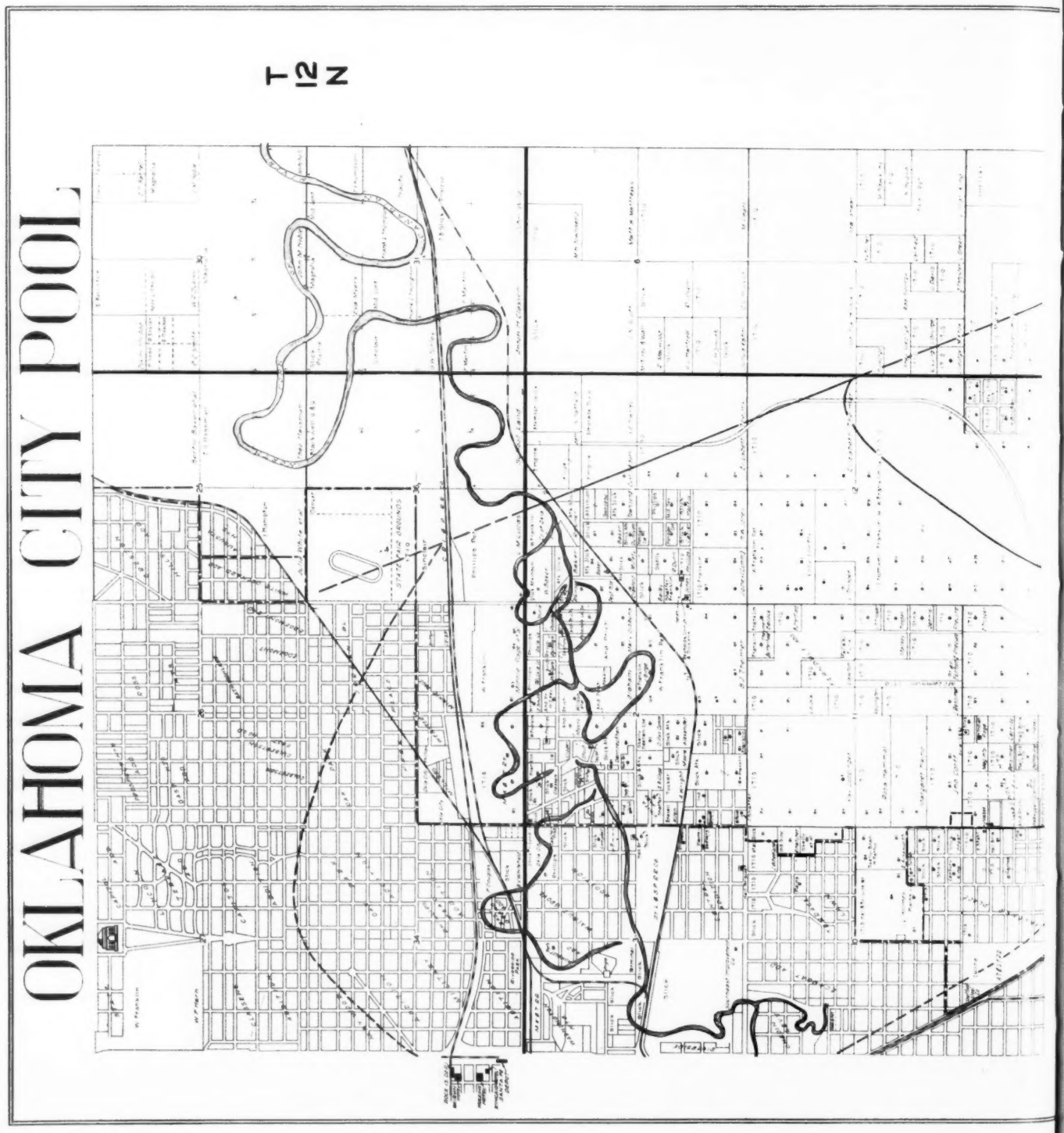
INTERNATIONAL TRUCKS

duction cost, royalties, etc., from the gross receipts, leaves a net profit of approximately $400,000. Splitting this five ways, on the basis of 120,000 barrels to the acre, each operator will have netted $80,000, or 4 per cent on their investment. Here is a glowing prospectus. The only hitch in this lovely financial picture is the fact that it requires about five or six times the recovery that can be expected.

With the present geologic data at hand there is very little argument as to the northern extent of the pool. As shown on the accompanying map, the southern limits are fairly well established. The Viola lime has been logged in several wells. Three of these are the Sinclair Oil & Gas Co., No. 1, NE NE SE, 36-11-3, the Indian Territory Illuminating Oil Co., No. 2, which offsets the above well on the east, and the Continental Oil Co., No. 1 NW NW NE, 6-10-2, in Cleveland county. All are edge wells. Edge water has been found in the Sinclair No. 2, one location south of its No. 1 previously mentioned. All this indicates a fairly rapid dip of the lower beds to the south. It is estimated that this dip is between 850 and 900 feet to the mile.

On the west side of the pool across 23-11-3W, the dip has lessened to about 600 feet to the mile. From this point on to the city limits, however, there is a noticeable flattening out. Well logs indicate very little dip away from the crest of the structure on the north end. The horizontal distance then between the edge of the lime production and the point where the Viola lime enters the section may be three times as great as on the south. The northern extension of the structure seems to be well up into the city.

When the Oklahoma City field was first getting under way it was likened in these pages to the Garber Pool. The likeness still holds for the producing horizon, general structure, and declines. As drilling has progressed and more has been learned about the extent of the pool, its general outline



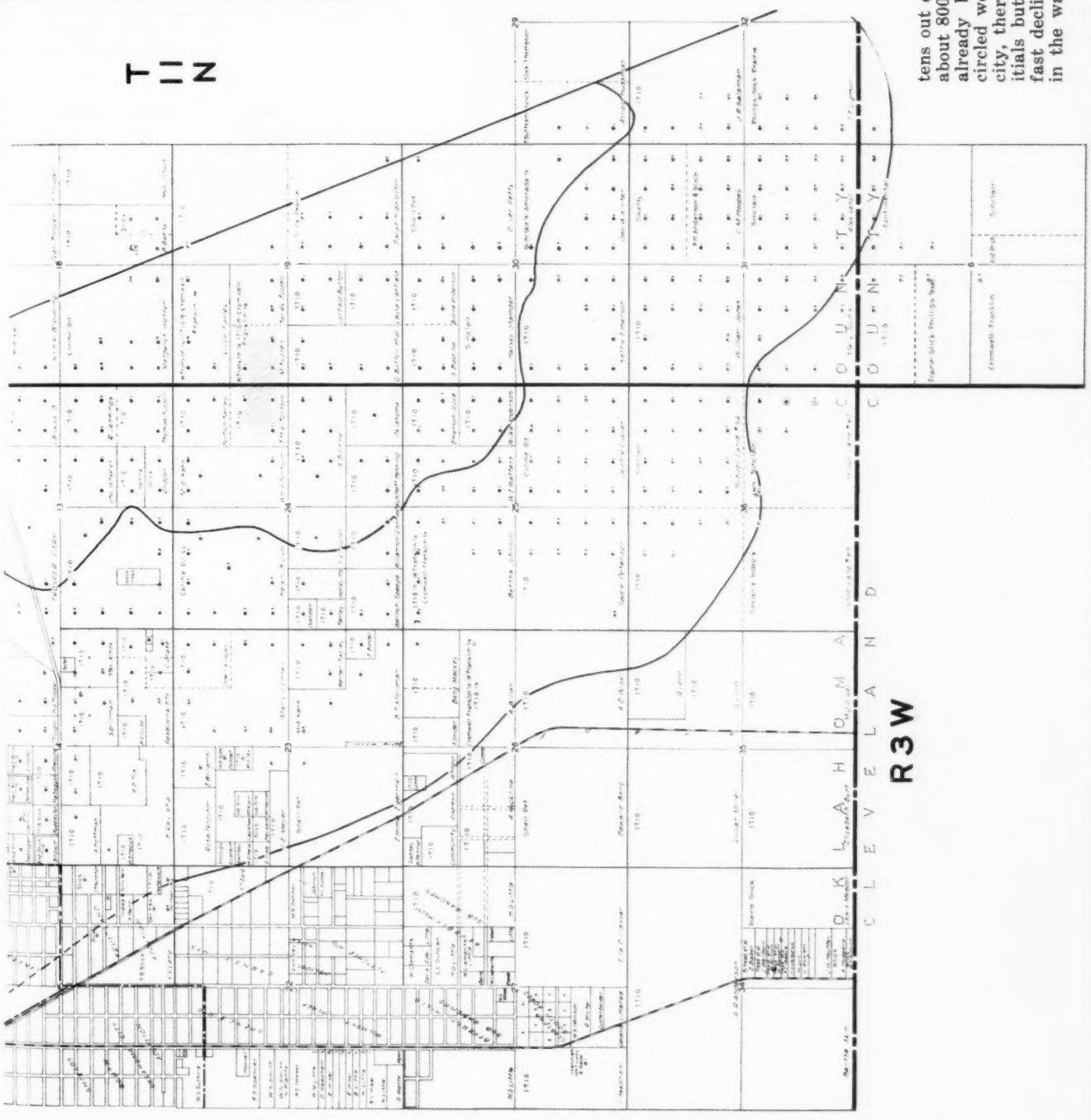
has come to be more and more like that of Tonkawa. It is almost a rule with structures of this type in Oklahoma, to have a sharp dip to the south and a gentle one on the north. The "City" pool seems to be running true to form and the sand area on the north will be quite extensive.

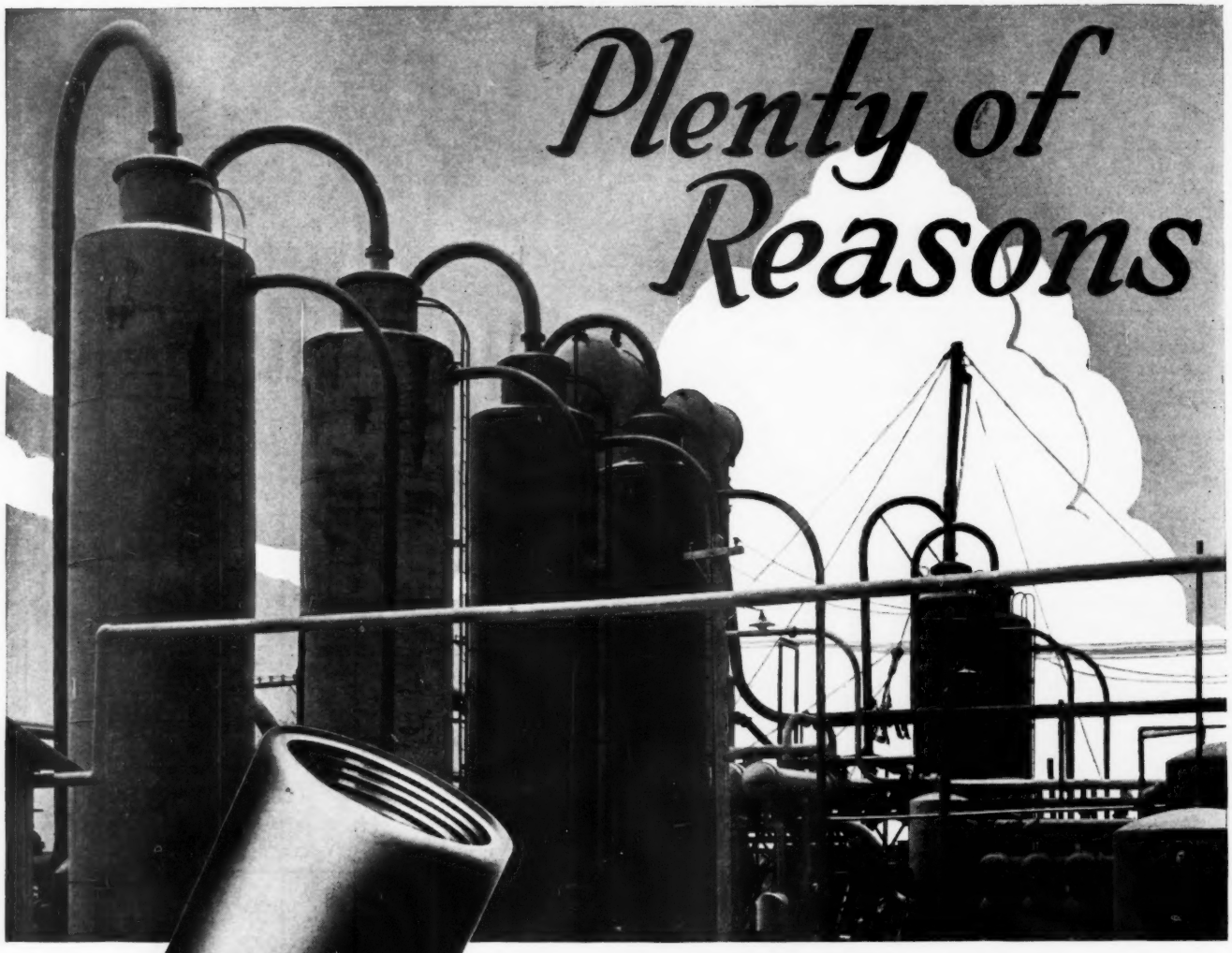
On the basis of this reasoning it is doubtful if any of the wells now drilling on the southern edge of the city will fail of good production. None of the present wells may hit edge water.

This, however, does not assure them of being financial successes. It takes more than a big initial to make a well into a paying investment.

MAP of the Oklahoma City Pool showing the development to date. The straight line down the east side represents the fault and the inner circling line outlines the limits of the lime production on the crest of the subsurface structure. In the geologic section above the Siliceous lime, the Simpson series is next and the Viola immediately above. Neither of these formations are found on the crest. They slope away and the point at which the Viola enters the section on the sides is indicated by the outside curving line. Between this line and that of the lime, is the area where the drill goes out of the Pennsylvanian beds into the Simpson sands. It is in this area that most of the production has been found.

Note how the structure flattens out on the north. On the south the dip is about 800 feet to the mile and edge water has already been found in 36-11-3W. (The two circled wells.) On the north, well up into the city, there are good possibilities for large initials but with the present close spacing and fast declines there seems little to recommend in the way of investment.





Plenty of Reasons

why NATIONAL is the logical Pipe for Refineries

ANY practice of long standing must have sound reason behind it. Time and service would be sure to disclose faulty judgment in selection of material or unfitness of product for the purpose. Yet, throughout the history of refining, from the earliest days to present practice, National Pipe has remained the standard —the first choice—the most generally used pipe for this purpose.

Many and varied are the reasons, but the outstanding one is that throughout every stage of improved refinery practice the "National" organization has anticipated and met every requirement for stronger, more ductile, more uniform, more durable pipe. Proven quality and extensive use have definitely established National as—

America's Standard Wrought Pipe

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION:

American Bridge Company	Carnegie Steel Company	Illinois Steel Company	The Lorain Steel Company
American Sheet and Tin Plate Company	Cyclone Fence Company	Minnesota Steel Company	Tennessee Coal, Iron & R. R. Company
American Steel and Wire Company	Federal Shipbuilding and Dry Dock Company	National Tube Company	Universal Atlas Cement Company

Pacific Coast Distributors–United States Steel Products Co., Columbia Department: San Francisco, Los Angeles, Portland, Seattle, Honolulu. *Export Distributors*–United States Steel Products Co., New York City

IN THE resolution pending in the lower house of Congress, Dr. Wilbur, secretary of the interior, has proceeded with his usual lack of tact. Perhaps that is the mildest way of describing his persistent disregard of public sentiment wherever public land affairs are concerned. The resolution, which has as its avowed purpose the promotion of unit development, contained this expression when originally presented:

". . . The terms and operation of any such plan shall at all times be subject to the approval of the secretary of the interior who is thereunto authorized, in his ABSOLUTE AND UNCONTROLLED discretion, to establish, alter, change or revoke drilling, producing and royalty requirements and otherwise to make such regulations in connection with the institution and operation of any such cooperative or unit operation to assure proper protection of such interests;"

The House committee on public lands struck out the two words.

Granting the worthiness of the object sought, the language used was such as to arouse immediate antagonism. At odd times we have talked with men who are learned in law and governmental methods and we have thus developed an interest in the subject. We have even read the constitution of the United States and its amendments, including that one which prohibits the sale of the Saturday Evening Post prior to Thursday. Thus we have arrived at a sort of an opinion as to the way this government is supposed to function.

Nowhere have we discerned any place where any officer, elective or appointive, is entitled to "absolute and uncontrolled" authority over anything whatsoever.

Every officer is answerable for his acts to somebody. Government frequently fumbles its way along and a modicum of discretionary power is sometimes stretched into a kind of arbitrary authority. Yet it is so unusual as to be almost a solitary instance to have a cabinet officer boldly seek to be appointed the suzerain over government property.

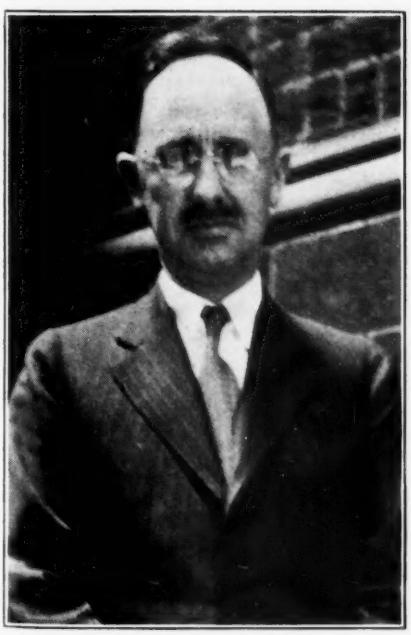
The public lands question, which has attracted little attention outside the states which have public lands, has been a troublesome thing to Dr. Wilbur ever since he took his place as No. 2 in the Wilbur dynasty. His first act was to refuse permits to explore on public lands. Thus he laid prostrate an oil industry that had established itself on the public domain under an act of Congress that was styled an act to "promote" the development of those lands.

Courts of the District of Columbia have held that the secretary exceeded his administrative power in refusing permits. One case was won by Walter B. Pyron, who manages the California subsidiary of the Gulf Oil Corp., whose largest stockholder is another cabinet officer, Andrew W. Mellon. The secretary has appealed from these decisions.

The country is so unaccustomed to and has so little liking for arbitrary power that this attempt will fail, either in Congress or in the courts.

* * *

E. L. Estabrook, consulting petroleum engineer for the Pan-American Petroleum & Transport Co. and affiliated companies, has been a member of the Standard Oil Co. of Indiana organization for more than 10 years. He was employed as chief petroleum engineer by the Midwest Refining Co. and went through the big doings in Salt Creek. After the Indiana company obtained control of the Pan-American in 1925, Mr. Estabrook went to New York. He spends considerable time in Mexico and Venezuela and occasionally makes a tour of the West Texas territory, where the Southern Crude Oil Purchasing Co., which is under the Pan-American wing, operates extensively.



E. L. Estabrook

* * *

Sylvan S. Price, the well known scientific geologist, of Tulsa, is fleeing from the hot weather. He is going to Europe.

* * *

There are those who consider the second term of President Reeser, of the American Petroleum Institute, a complete bust. With every sign pointing to an early and terribly hot summer, he neglected to arrange a conference in Colorado Springs. Recall proceedings are being considered by some of the local folks who love to attend conferences in the mountains.

* * *

E. J. McKee, prominent in Mid-Continent engineering circles, is now with the Wirt Franklin Petroleum

E. J. McKee

Corp. as production engineer. Until recently he was with the Phillips Petroleum Co.

* * *

Vest Terry, who owns several filling stations in the Tulsa territory, has stopped selling White and Blue Crown gasoline. This action was taken at the request of the Standard Oil Co. of Indiana. With most of the ordinary words in the language copyrighted, it is difficult for a newcomer to put up a sign.

* * *

Well, we've seen the airplane, the radio and the one-button union suit take their place in modern life, among other marvels of civilization, but the most amazing thing of all is the decision of the Kansas oil inspector to suspend collection of inspection fees from June to September on the ground that the money is not needed to run the office.

* * *

Continental Oil Co. executives can now go quickly as a group to whatever part of the country demands their presence. The company's latest addition to its air fleet is a Ford, trimotor. It has eight seats, pullman berths, shower bath, kitchenette and radio.

* * *

F. E. Turner, former superintendent of production for the Foster Petroleum Co., has been made an assistant superintendent of production, Bartlesville district, for the Indian Territory Illuminating Oil Co., which recently bought the Foster properties.

* * *

Frank L. Chase, vice-president of the Lone Star Gas Co., is making satisfactory progress in recovering from an injury sustained late in May. Tripping on an inclined part of the dining room floor in an Omaha hotel, he fell heavily and broke his right leg.

* * *

There died recently in Philadelphia a man who is well remembered for his pioneer development work in Kansas and southern Louisiana. I. N. Knapp retired from active service in 1921. He entered the employ of the United Gas Improvements Co. in 1887 and remained with that company in various capacities until the day he retired. His oil and gas prospecting work was for the U. G. I. Arthur Knapp, well known for his work in the economics of oil, is a son.

* * *

Since the Indian Territory Illuminating Oil Co. began using its own water wells for field supply, it has removed a heavy load from the city's system, according to the city water superintendent. The city formerly sold about 12 million gallons monthly for field use and it now sells around four million. This, of course, by no means represents the water consumption in the field, as much of the supply is taken by the companies directly from the river.

Married: In Shawnee, Okla., Miss Mary Pitman and Harold R. Benson. Mr. Benson is geologist for the Tri-State Royalty Co., and lives in Oklahoma City.

* * *

E. R. Beckford, formerly superintendent of the Empire Oil & Refining Co.'s gasoline plant at Seeley, Kans., has been made superintendent of the plant at Wellington.

* * *

Born: To Mr. and Mrs. Gail E. Carpenter, Wichita, a daughter. Mr. Carpenter is a member of the Independent Oil & Gas Co.'s geological department.

Texas Output 100,000 Barrels Over Present Demand

By Paul Wagner

N. P. N. STAFF WRITER

By Telegraph

FORT WORTH, June 29

THE curtailment in Texas crude oil production necessary to bring it in line with present demand is informally placed at 100,000 barrels daily. Present output is 850,000 barrels.

Steps looking toward further curtailment continue, but hinge mainly upon submission to the state railroad commission of data by the committee of oil producers and purchasers and, later, upon the action the commission takes on this data.

Some of the large crude oil purchasers have been slow in disclosing to the committee their buying requirements for the rest of the year.

Whatever action the state commission takes will be under the new common purchaser pipeline law in Texas, which provides for non-discrimination in purchases as between both fields and property. It became effective June 20.

The law is generally looked upon as a mandate to the commission to sanction agreements among operators for equalized production. While the legality of the statute is questioned by certain purchasers, they are understood to be willing to avoid a court test in the interest of a further curtailment in production recognized as necessary.

Meantime, daily average output is being cut some in local areas by readjustments in the present prorating schedule. The effect of this is negligible, however, in relation to the necessities of the situation. Present proration is under the Texas conservation statute prohibiting physical waste of oil or gas.

Pecos County, West Texas, operators, recommended to the commission that allowable production in the Yates field be reduced from 110,000 to 100,000 barrels daily, effective July 1 and that proration continue another six months. An order to that effect is being entered by the commission.

In Howard and Glasscock counties, where the prorating system has varied from that practiced elsewhere in the state, decision hangs fire on the method to be followed. The commission is expected, however, to approve a plan to use the Yates system of 25 per cent allowance based on acreage and 75 per cent on average potential production of 40 acre units. Less than 30,000 barrels daily production is involved.

The railroad commission July 2 will consider whether prorating shall continue in the Darst Creek field of the Luling fault zone in central south Texas and how it shall be applied. The field has been recently prorated to market outlet of 23,000 barrels daily, in comparison with nearly 230,000 barrels rated daily potential.

The Darst Creek hearing was called under both the old conservation statute prohibiting physical waste and the new common purchaser pipeline bill. One operator insisted on producing in excess of the field's prorating allowance. This probably will bring the new common purchaser law into a commission hearing for the first time officially.*

How the commission will fit the new law into the existing prorating fabric generally may be indicated by steps taken or evidence required in the Darst Creek hearing. In New Mexico state officials are tending to thwart curtailment. Gov. R. C. Dillon, of New Mexico, is quoted as saying there can be no proration in the Hobbs area for "some time to come," notwithstanding that potential production now exceeds 50,000 barrels and could be doubled by wells on proved locations before July 15.

The attitude in New Mexico is that revenues are now too badly needed to consider curtailment on state lands such as exist to great extent in the Hobbs field. Therefore, the three pipelines with 60,000 barrels combined capacity to be available in July, will be forced to handle quantities of production not previously contemplated for the present. Southeastern New Mexico production moves into the same crude consuming channels as West Texas oil and through the same trunk pipeline systems.

*See NATIONAL PETROLEUM NEWS, June 25. Page 45.

Oklahoma City Extended Two Ways; Sand Wells Show Water

By William F. Lowe
N. P. N. STAFF WRITER

TULSA, June 28

HEADLINES of the Mid-Continent production news for the past seven days have been largely taken up with pool extensions. None of the latter was unexpected though some of the results were rather surprising. Oklahoma City was stretched almost a mile to the northwest and nearly half that distance on the south. One of the southern wells gave further evidence of edge water and a new sand well in the heart of the pool started cutting at over 15 per cent.

At West Asher, in Pottawatomie county, Okla., a well that had been promising to extend the pool a mile to the south, is quite evidently a failure. The pool itself however, had two good completions, one of which moves the former boundary one location south. The south end of the Konawa Pool in Seminole county, was extended one location north. There now remain but two locations between the north and south pools. Several other good wells were brought in at Konawa during the week.

The West Chandler area, of Lincoln county, Okla., continues to improve. One new one in this pool looks like it is good for at least 4000 barrels, while deepening of one of the older wells resulted in a big production increase. Water at South Earlsboro is showing in several of the new wells and initials do not seem to be what they used to be.

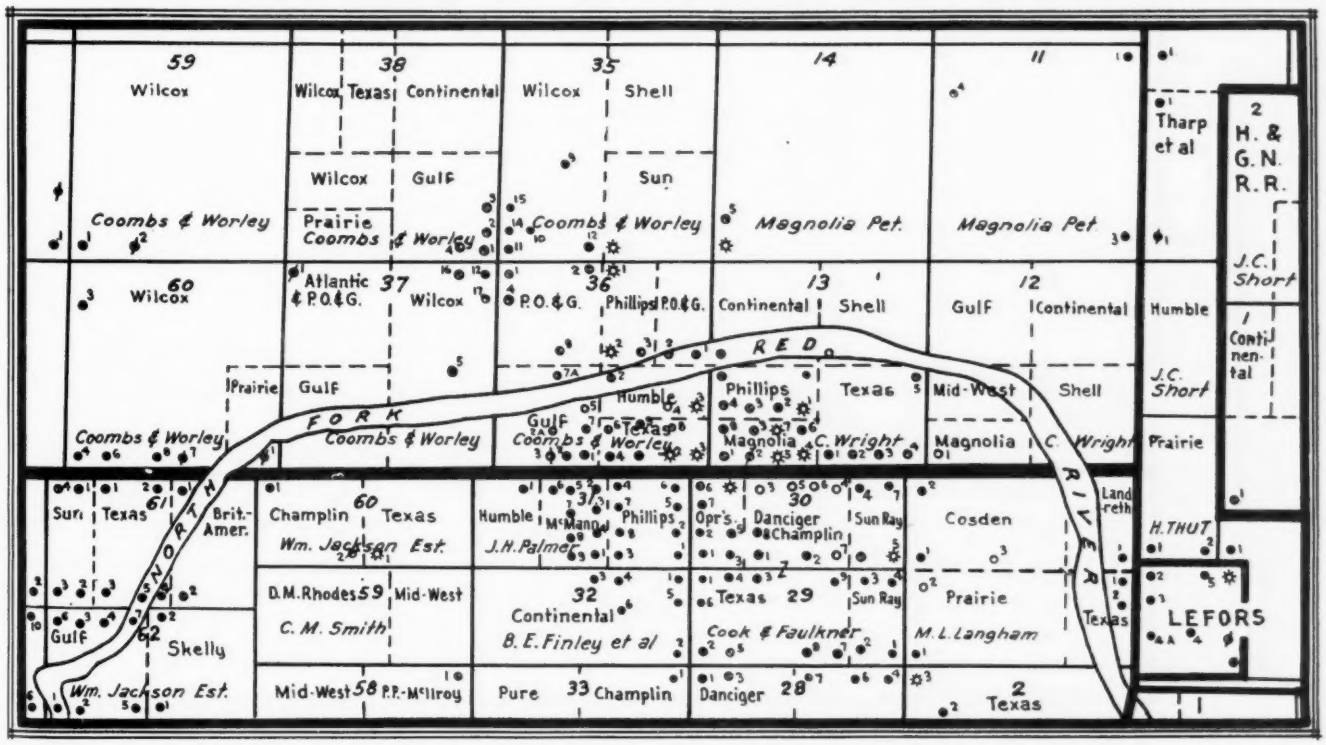
The new Eastborough pool on the outskirts of Wichita, Kansas, was the hottest spot in that state. So near is the area to the better residential district of the city, that there is considerable agitation for restricted drilling. In the Raymond pool of Rice county, deepening has proven to be beneficial. One well responded with an additional 400 barrels and the other four wells in the area will probably follow suit.

There were a number of good completions in the Texas Panhandle though none was of outstanding interest. The accompanying map is presented to show the development in and around the Finley pool of Gray county. The most recent good well in this territory was that of the Wilcox Oil & Gas Co., in 35-3-I&GN. Its No. 15, SE NW SW, was drilled into the granite wash pay, from 2846 to 2851, last week and had an initial of 6054 barrels. The well is high structurally and is the largest in the immediate vicinity. It is also an extension to the north.

Oklahoma City

Extending the pool one half a mile to the northwest, the Wirt Franklin No. 1 Wright, NE NE NW, 2-11-3W, came in for an initial of 4770 barrels the first 20 hours. The sand was topped at 6310 and the well is bottomed in the Wilcox at 6561. It logged almost as high as the larger wells on the south and quite effectively proves up the town lot drilling area within the city limits. Its initial, however, is rather small.

On the south end of the pool, the Continental Oil Co., No. 1 Sudik, NWC NE, 6-10-2W, just over the line in Cleveland county, made 5845 barrels the first 13 hours. The well was drilled 14 feet into the Wilcox sand to a total depth of 6705. Here is further indication of the fast dip on the south end, for the above well is over



Map showing the development in and around the Finley pool of Gray county in the Texas Panhandle. The newest well in the district is the No. 15 of the Wilcox Oil & Gas Co., in 35-3-I&GN. Its most recent gauge was 6054 barrels from the granite wash

Get Your Copy!

(Price $2.00
Postage Paid)

■ This new Handbook, "Principles and Practice of Flow Meter Engineering," is the up-to-the-minute authority on Orifice Type Meters for Liquids and Gas. It is published in convenient pocket size and bound in durable flexible leatherette.

■ Its two hundred and fifty pages completely cover the theory, description, methods of computation, installation and operation of fluid meters of the orifice type.

■ This is a book you should have. A check will bring it to you by return mail. Don't put off the impulse! Write to "Book Department."

New York
Chicago
Boston
Philadelphia
Detroit

Pittsburgh
Cleveland
Portland, Ore.
Rochester, N. Y.
Los Angeles

San Francisco
Salt Lake City
Atlanta
Tulsa
Dallas

Canada
Peacock Brothers, Ltd., Montreal

Australia
Alfred Snashall, Ltd., Sydney and Melbourne

England
Walker-Crosweller & Co., London

P. I.
The Edw. J. Nell Co., Ltd., Manila

THE FOXBORO COMPANY

Neponset Avenue, FOXBORO, MASS., U. S. A.

FOXBORO

REG. U. S. PAT. OFF.

THE COMPASS OF INDUSTRY

Instruments for Controlling, Recording, and Indicating Temperature, Flow, Humidity, and Pressure

200 feet lower on the top of the sand than the nearest producer, one quarter of a mile north.

Edge water in the sand was made more clearly evident with the completion of the Sinclair Oil & Gas Co., No. 4 School Land 67. Located in the NE SE SE, 36-11-3W, the well topped the Viola at 6575 and had a hole full of salt water in the Simpson from 6781 to 6791. It is now bottomed at 6806 and is below the producing horizon. Two weeks ago, the No. 2 School Land, offsetting the No. 4 on the north, came in cutting 30 per cent though it was also a good oiler.

Of more importance, at least as far as the pool is concerned, is the water showing in the No. 6 Clauer of the Coline Oil Co. This recent completion is in the SE SW SE, 25-11-3W, and is cutting 7 per cent salt water and 9 per cent b.s. Its initial production was 5191 barrels. Its log shows the presence of two sands, one at 6345 and the other at 6680.

Drilled to a total depth of 6732, the Coline well is nearly 200 feet deeper than any of the neighboring sand producers. The upper pay was not noted in any of the latter nor was salt water found in them. It seems probable that the well was drilled too close to, or into the lime and that the water has its origin in that formation. Plugging back may result in a shut off.

There is little to indicate that the dip on the west will be much less than it is on the south. The border wells already show it to be a little better than 600 feet to the mile. Few of these wells have been large, compared to those sand wells further north or east up the structure.

West Asher

The promise of a mile extension to the south for this pool in Pottawatomie county, Okla., failed to materialize. The No. 1 Johnson of Westheimer & Neustadt in the NE SE SW, 27-6-3E, cored a lime from 3614 to 3617 and black shale from there to the total depth of 3623. The pay sand of the pool was topped at 3598 and a small show was found at 3601, but the well now seems too low to make a producer.

The seventh and eighth wells were added to the pool proper. These were the Indian Territory Illuminating Oil Co., No. 2, NW SW NW, 23-6-3E, and the Twin State No. 1 NE NE SE 22-6-3E. The former made 1930 barrels on test and the Twin State was good for 3025 barrels in 24 hours. It looks like the biggest well yet to be brought in in the pool. The pays were just below 3500 feet in both cases. Several other wells are due in shortly and a number of new locations were made during the past week.

Konawa

The most interesting well in this Seminole county pool was that of the Barnsdall Oil Co., in the SE SW SE, 17-6-6. Bottomed in the Cromwell sand from 2904 to 2919, it flowed 4995 barrels on its first gauge. The well acts as another connecting link between the north and south ends of the pool.

J. R. Doles has been made vice-president and general superintendent of the Ajax Pipe Line Co., subsidiary of the Standard Oil Co. of New Jersey. Mr. Doles came from the Oklahoma Pipe Line Co., where he was superintendent of the Ardmore district system. The Oklahoma is also a Standard subsidiary. The Ajax line, now under construction, will go from the Glenpool district near Tulsa to Wood River, Ill.

Phillips & McMahon No. 1, SE NW SE, 20-6-6, was another good completion at Konawa. The sand was topped in this well at 2895 and when deepened to 2923 it produced 1405 barrels in 12 hours. Since its completion however, the flow has increased to 145 barrels per hour.

West Chandler

The deepening of the Magnolia Petroleum Co., No. 1, SE SE NW, 7-14-4E, to a new total depth of 5039 in the Simpson, resulted in a big increase in its flow. The well's most recent gauge was 9618 barrels in 24 hours. The No. 2, north offset to the above is flowing 5500 barrels per day but is now cutting a little salt water.

The new well of the week in this area in that of T. B. Slick, in NE SE, 7-14-4. In the Simpson sand from 5061 to 5085, the wells produced 1000 barrels in nine hours. It is now shut down for tanks.

Cement

It has been conjectured for some time that there was deep production in Caddo county, Okla., particularly in the vicinity of the old Cement pool. This week the Mid-Kansas Oil & Gas Co., found a pay from 4057 to 4092 in their No. 9 WADE, SW SE SW 2-5-9W. The well gauged 516 barrels in 24 hours on the swab. It is not definitely known whether the new sand is still in the Pennsylvanian or not, but since this formation has an enormous thickness in the region, it quite probably is. Most of the production in the Cement pool is found between 3200 and 3600 feet.

Kansas

It seems that the people of Wichita do not want any of the trouble that is threatening Oklahoma City. Town lot drilling is to be prohibited if possible. The new Eastborough pool, which promises to move in on a fine residential district, seems to be in for some restrictions. The well that caused all the trouble was the Fisher & Lauck No. 2 Trustee, SW SE, 19-27-2E. Its most recent gauge from the Chat pay at a total depth of 2973, was 670 barrels and it was pinched in at that. During the week there were a number of new locations made in the district.

Operators have not been able to agree as to how the new restrictions shall read but it has been suggested that one well to an 80 would be sufficient. One well at a time is the principal idea. The question is to be decided this week.

Unit Development Bill Passed by Senate

WASHINGTON, June 28.—Without any trouble at all and without a roll call the Senate June 27 passed the bill changing the national leasing law so as to authorize Secretary Wilbur to become a party to the unit development of Kettleman Hills as a substitute for the existing suspended, arrested, or restricted operation agreement now in effect. It was piloted by Senator Walsh of Montana. An attempt to pass it the day before was blocked by Senator Bratton of New Mexico when Walsh asked for unanimous consent to take up the measure.

Bratton objected because he apprehended that when a situation arose, such as prevails in Kettleman Hills the big operators would go into a unit development agreement with the government on an equitable proration of the oil produced but offering the little man little or nothing depending upon his ability to make a nuisance of himself. Walsh admitted that an agreement providing for unit development meant that competition in that pool would not be going the limit. But he was not so apprehensive as the New Mexico senator.

Amendments were made in the bill providing for the lapse of the legislation January 31, 1931 and the forfeiture of any land embraced in a co-operative development plan if the lease on the land is put into control of unlawful trust or the products of the land are made the subject of price fixing. The time limit was put on on the theory that the matter was so important that the Senate should make a study between now and January 31, 1931 and be prepared to act as a result of mature thought.

Production from Playa del Rey Field to Be Prorated

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, June 27

PRODUCTION news from California fields the past week dealt chiefly with reports from various wildcat tests and with numerous completions or expected completions throughout the state.

In more or less accord, operators in the Playa del Rey field signified their willingness to abide by the six-month state-wide curtailment program. Umpire Niel Anderson will include the beach field with the other Los Angeles Basin fields under his jurisdiction. Except for the Mohawk Oil Co., which remained a holdout in the Santa Fe Springs and Fruitvale fields, the umpire expects little trouble in securing the co-operation necessary to hold production temporarily to the 6000-barrel mark.

Small operators are faced with the alternative of either signing the proration agreement or trucking their production to independent refiners. Standard Oil Co. is reported to have agreed to connect its Inglewood pipeline to the del Rey field. However, neither Standard nor Union, which is also reported ready to take the sulphurous crude, will provide an outlet for those operators who do not prorate.

Either of these two companies has the refinery equipment necessary to treat this type of crude and they both have sufficient non-sulfur crude to absorb the Playa del Rey production. Union Oil Co., with holdings in the field, is reported ready to extend its line from the Rosecrans field to the beach, but not before it has developed some commercial production.

Although one operator is reported to have had to sell his del Rey crude for 40 cents a barrel at the well, the activity in this newest Los Angeles Basin field has not diminished. As the week closed there were 32 active drillers, three locations and six producing units. Field reports indicate at least seven of the drilling wells are drilling at critical depths and are due for production tests within the week.

During the past week two shallow zone and two deep sand producers were added. These completions, together with the discovery well and its two offsets, gives the field a total potential daily production of approximately 8400 barrels.

The first of the shallow wells to make commercial production was the Mohawk Oil Co. No. 1. Bottomed at 3423 feet, it had an initial flow of 435 barrels, but later was put on the pump with the daily output reduced to 345 barrels. That the shallow pay will not set the world on fire was indicated by results obtained in the second upper-level completion. This well, the Jergins Trust No. 1, drilled on the beach, was also put on the pump to make 225 barrels.

Ohio Oil Co. completed its Brown No. 1 below 6000 feet for approximately 300 barrels per day. The company's Dickenson No. 2 failed to yield a steady flow on the production test and may be put on the compressor to straighten out the kinks.

Conscientious objectors to pollution of the Venice beaches were successful in thwarting proposed tideland drilling offshore from the Playa del Rey field. An injunction was obtained by property owners in the area against the Los Angeles City Playground Commission to restrain this body from granting permission to drill in the beach land.

THE City Council adopted a resolution to prohibit drilling on any city-owned land that could be used for recreational purposes. Two other resolutions are before the city government. One is to the effect that oil produced within the city limits is subject to a license tax. The other, states that spraying oil from completions in the townlot district causes damage to neighboring property. It suggests that all wells be inclosed with corrugated sheeting prior to putting the well on production.

Accompanying the increase in production from del Rey field, Santa Fe Springs operators boosted their daily output to an average of 115,000 barrels for the week. Early in the week, Umpire Paul Grimm, wired the refractory operators to fall in line with the June 16-30 allowables. He also instructed the pipeline companies not to accept production from any company in excess of the allotted amount.

No mention is made at this time regarding a possible crude cut if operators at "the Springs," do not keep their daily output within the prescribed amounts. However, although proration measures are being adhered to by other California Group 1 fields, production from Santa Fe Springs will have to be reduced to near its allowable of 95,786 barrels if the state is to achieve the desired daily output of 598,000 barrels.

Major producing units in this Los Angeles Basin field continue to bear the brunt of curtailment measures. While one or two of the larger companies are producing from 350 to 1450 barrels in excess of their allowable the chief offenders are the Wilshire Oil Group, Oscar Howard, and the Mohawk Oil Co. These companies contribute aproximately 13,000 barrels of the field's excess.

Part of the increase in production at Santa Fe Springs was accounted for by completion of four wells. Union Oil Co. revived interest in the field by completing its Bell 41 for an initial production of 978 barrels of 31 gravity oil from a depth of 6865 feet. This project, located on the top of the structure in the O'Connell zone, is the largest completion made in the area for several weeks.

Reworked wells comprised the other completions. Twin Bell Co.'s Grohs No. 5 was once drilled to 7104 feet but later was plugged and completed at 5973 feet for 688 barrels fluid cutting 60 per cent. Shell Oil Co. plugged its G. H. & N. No. 13 back to 5771 feet from an original depth of 6845 feet. During the 24-hour flow test the project made 381 barrels cutting 70 per cent.

Total Santa Fe Springs production for June 25 was estimated at 115,252 barrels from 422 wells, production by zone in the lower producing sands was as follows:

Zone	Zone Production	No. Wells	Ave.
Nordstrom	7,289	14	520
Buckbee	11,472	38	303
O'Connell	36,624	81	452
Clarke	46,876	195	239
Shallow	12,991	94	138
Total	115,252	422	273

There are now 35 active drilling wells at "the Springs," including 15 new drillers, 16 wells being reworked from lower horizons, and four wells preparing for production tests. Idle drillers numbered 29 and there were 65 and 136 wells shut down in the deep and shallow sands, respectively.

Field experts believe few of these inactive producers could be put on steady production. It is thought that lessening of the gas pressure and mudding off of shallow zones would prohibit recompletion of the wells off production for more than two or three months.

Production at the Long Beach field was substantially increased during the week by completion of several deep sand wells. Ring Pet Co. drilled in its No. 5 located in the Los Cerritos district, for 765 barrels of 23.2 gravity oil during the first 24 hours of production. As the well was cutting nearly 40 per cent preparations were made to recement a faulty shut-off. This project, which was completed at 6800 feet and a former completion by the same company at 7074 feet were shallow producers redrilled to the lower pay. Ring Oil Co. has three other wells that may be deepened as a result of the greater production obtained in the deep sands.

Other completions in the Cerritos district, on the northwest flank of the Signal Hill, and also on the opposite southeast flank, are expected to boost the field's total within the next two weeks.

In conjunction with these indicative completions, numerous wildcat and semi-wildcat tests reported encouraging showings. General Petroleum Corp.'s tideland well No. 1, in the Goleta district northwest of Santa Barbara and Chanslor Canfield Midway Oil Co.'s Hobson 2-A, southeast of Rincon, claimed the spotlight in the Cerritos district.

The Crandall was drilling ahead below 4793 feet and is thought to be in the Vaquerous formation. Although the well is known to be on the structural flank, heavy mud is being used to prevent a blowout similar to that occurring when the same company's More No. 2 was completed several months ago on the mainland. The More No. 2 had been drilled through the overlying Monterey sand and 80 feet into the Vaquerous when it blew in out of control, making approximately 10 million cubic feet of slightly wet gas.

The C. C. M. O. Co.'s Hobson 2-A was cemented through perforations with the top of the cement job at 6770 feet. This well has given rise to a number of false alarms so that California operators will await a production test with considerable interest.

In the group of semi-wildcat tests, Superior Oil Co.'s Torrance No. 63 in the field of that name is drilling below 5890 feet in its deep test. The company declines to state what the showings are in this test but field reports have not been very encouraging.

Another deep test of the Torrance field is under way in United Kern Petroleum Corp.'s No. 1. This well formerly belonged to the Ring Petroleum Co. and was drilled for a shallow producer. Conflicting statements indicate the well is between 4400 and 4500 feet in non-productive sand. Company officials propose to drill this test to at least 6500 feet in search of deeper production.

Barnsdall Oil Co. is drilling at 6436 feet in the Syndicate No. 1 at Huntington Beach, in gray sand. Although it is reported showings from this well are of a positive nature, thin shale bodies prevent a successful water shut-off. Deep production from the Huntington Beach area has been predicted for several years. Because of the much talked about overproduction problems, major companies with large holdings in the field have attempted to steer clear of any development that might open up a lower horizon.

Kettleman Operators Object To Government Action

LOS ANGELES, June 27

OPERATORS on the north dome of Kettleman hills have expressed dissatisfaction with some features of the new law permitting unit development on public lands. A telegram was dispatched to Wilbur on June 27 by the north dome committee expressing regret that operators were not allowed to comment on the bill's provisions.

The operators think that leases should be extended for the life of the field instead of for 20 years when the unit plan is adopted. They object to the feature allowing the Secretary of the Interior to modify or terminate the plan. It is their opinion that the government should be bound as much as the lessees.

Recently Secretary Wilbur is said to have given permission to Continental Oil Co. to drill three wells on Sec. 2 of the north dome offsetting two producing and one drilling well on Sec. 35. In his letter Wilbur is said to have given the permission only on consideration that none of the wells would be produced until after July 1, 1931.

With each well costing in the neighborhood of $275,000 to $300,000 to drill and equip with the necessary surface apparatus, Continental is not expected to jump at Wilbur's offer. Rather than tie approximately $900,000 up for a period of six months it is anticipated the company will delay actual development until later in the year.

The Secretary's letter is reported to have offered the present excessive gas waste in the Kettleman Hills as an explanation for the refusal of permission to complete the offset wells. Continental is now producing in excess of 116 million cubic feet of gas daily from its Elliott offset to the discovery well on the north dome together with about 3375 barrels of 61 gravity oil.

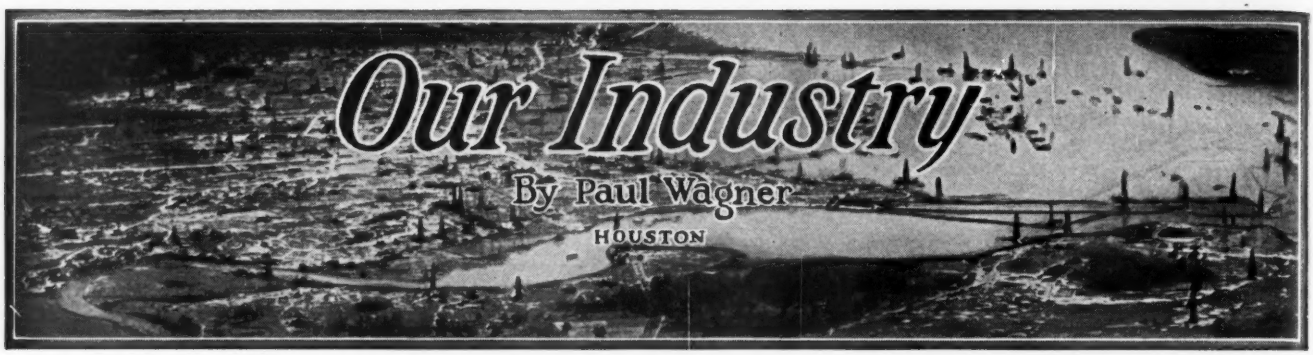
Although part of the gas yield from this well and the other five producing wells, is delivered via pipelines to the San Francisco bay area for industrial and domestic use, about 270 million cubic feet is blown into the air. The following table gives oil and gas production from the six producing wells on the north dome.

Company	Well No.	Oil production B/D	Gas production MCF
Standard Oil Co.	1-P	3,120	91,580
Standard Oil Co.	11-P	2,575	86,305
Standard Oil Co.	35-J	2,474	67,240
Continental Oil	Elliott-12-8	3,375	116,985
Milham Exploration Co.	Elliott 1 (discovery)	1,926	67,105
Petroleum Securities	Felix 1	879	25,106
Total		14,349	474,321

Wells drilled on fee land, draining Continental's permit holdings, can be expected to be produced more or less wide open in view of the break down of the state gas law. This will ultimately result in a heavy loss to the government, for the permit leases in this locality are known as "B" class and carry a royalty of 30 per cent to the government. This is the largest payment made by any producing company to the government, for the right to drill the permit land.

That Continental should be allowed to drill in the offset wells, is the consensus of opinion among a number of the operators interested in the north dome. Both the permit land of Sec. 2 and the fee land of Sec. 35 are acknowledged to be down on the northwest flank of the Kettleman Hills structure. Edge water conditions, accentuated by the uncontrolled gas production from producing wells on Sec. 35 will impair the ultimate recovery from the government land.

Continental Oil Co. gave its support from the start to the conservation program inaugurated on the north dome. It is rumored that had this company not given the much needed aid the plan would have fallen by the wayside. This feeling of discontent among several of the companies is thought to be the primary cause for disagreement on a suitable plant of development for the area.



D. G. BARNETT, geologist representing Geo. F. Getty, Inc., in Texas territory, has been transferred from Fort Worth to San Antonio. At one time he was connected with the Dixie Oil Co., Inc., direct producing subsidiary of the Standard Oil Co. of Indiana, then being stationed in southwestern Texas.

* * *

Frank P. Sterling, vice president of Humble Oil & Refining Co., in executive charge of Gulf Coastal Texas production, is spending a few weeks in Colorado with his family.

* * *

F. L. Fornier, formerly of the San Angelo division geological organization of the Skelly Oil Co., Tulsa, has been transferred to the core drill division and is now stationed at Hutchinson, Kansas.

* * *

Following the recent resignation of John W. Choate as vice president of the Grayburg Oil Co., San Antonio refiners and producers, the announcement is made that Arthur J. Devlin will make headquarters in the Alamo city as vice president and general manager. Other officers are S. M. Newton, New York, president; F. L. Tormey, New York, secretary; and Arthur D. Kohler, San Antonio, treasurer. Directors include, besides the aforementioned, C. E. Josten of New York and W. B. Harrell of Dallas.

* * *

S. H. Wallace is taking up new activities in The Texas Co.'s organization as manager of the East African territory, with headquarters at Nairobi, Kenya Colony. He was formerly in the company's export department.

* * *

Emil Kluth, chief geologist of Geo. F. Getty, Inc., Los Angeles, is on a trip to Europe, accompanied by his family. While abroad, Mr. Kluth will look after business of his firm in Germany and Switzerland.

* * *

Luis C. Chappius, Los Angeles geologist will make his headquarters at Callao, until August, while engaged in work for the Peruvian government.

* * *

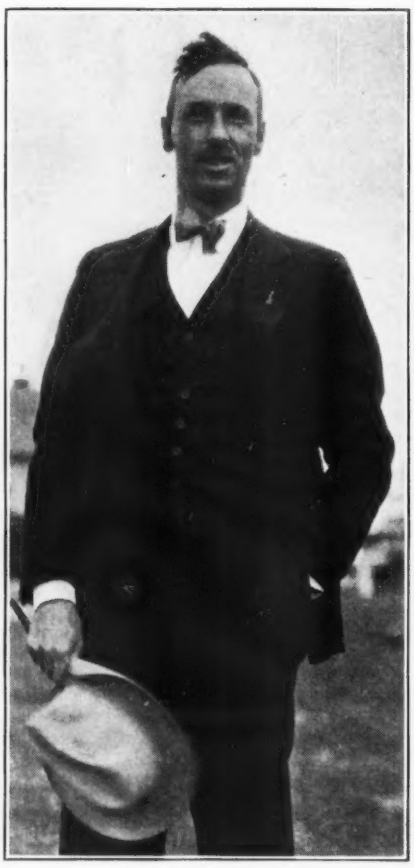
J. Earle Brown, chief geologist of the Tidal Oil Co. of Texas, with headquarters at Fort Worth, is now spending a considerable of his time in South Texas territory, in connection with the general exploratory work affecting the San Antonio-Luling district. His organization also has been active for a period in the Permian salt basin region of West Texas and New Mexico.

* * *

Douglas R. Semmes, formerly of the University of Alabama and later chief geologist of the Mexican Eagle Oil Co. Ltd., at Tampico, is now president of the San Antonio Geological Society. He is engaged in consulting practice at San Antonio. Other officers of the society are Herschel H. Cooper, consultant, vice president; Ed W. Owen, of the Wentz Corp., secretary-treasurer.

* * *

Phil Martin has succeeded Fred P. Shayes in the Beeville, Texas, district of the Houston Oil Co. of Texas, in charge of operations. Mr. Shayes was transferred to the Houston headquarters office to have charge of subsurface geological work.



J. Earle Brown

* * *

C. B. Wilson is now in charge of the new business department of the Southern Cities Distributing Co., a gas subsidiary of the Cities Service Co., at Shreveport. He was formerly with the Joplin Gas Co., another subsidiary.

* * *

Thomas Bonstow of the Mexican Eagle Oil Co. Ltd., (El Aguila), has returned to Tampico headquarters after a business and vacation trip to the Pacific Coast.

* * *

Art Brainerd, in general charge of geophysical work for the Continental Oil Co., with Ponca City headquarters, has returned to Oklahoma after a business trip to Houston territory, among other districts in Texas.

* * *

R. A. Moore, formerly resident geologist in Mississippi for the Louisiana Oil Refining Corp., now heads the Interior Oil Co., which is drilling a test well on the Jackson anticline, making headquarters at Jackson.

* * *

Lee Cummings is now chief clerk under Superintendent H. A. Axtell in the Davenport, Okla., producing department office of the Magnolia Petroleum Co. He was transferred from the Shreveport machine shops, where he had been in a similar capacity under Superintendent Ross Cribbs. E. V. Metcalf succeeded Mr. Cummings at Shreveport. E. G. Martin replaced Mr. Metcalf, who was transferred from the Haynesville office under Superintendent A. H. Henderson.

* * *

District production offices of The Texas Co. at Odessa and McCamey, Texas, and Carlsbad, New Mexico, have been consolidated at Wink, Texas, in the Winkler county territory. Employes moved to Wink included R. C. Carroll, formerly of Carlsbad; Elmer Carroll and J. L. George, formerly of Parks; D. H. Scott and C. L. Moorman, formerly of McCamey.

* * *

L. H. Nuland, assistant manager of The Texas Co.'s North China organization is now in the United States on home leave.

Producing Problems of Oklahoma City Are Varied and Difficult

By William F. Lowe
N. P. N. STAFF WRITER

OKLAHOMA CITY

ALL but 28 of the producing wells in the Oklahoma City pool are flowing wells. The exceptions noted are on the swab or the gas lift and represent but 7.9 per cent of the total wells in. To date, the average initial per well for the 263 producers has been in excess of 7000 barrels. The eight gas wells have averaged over 95,000,000 cubic feet. Considering the fact that not a single dry hole has been drilled on the structure since its discovery 18 months ago, the above figures constitute a remarkable record.

Operators are however, quite generally of the opinion that the pool has reached its peak of potential daily yield. Initials are somewhat lower than they formerly were for rock pressures beginning to show the effect of the removal of large quantities of gas. The original rock pressure of 2200 pounds is seldom encountered and the average over the field is only slightly above 1600 pounds. Flow pressures are about one-third that amount.

In the lime area on the crest of the structure, all of the 125 wells bottomed in the Siliceous lime are making water. The amounts vary from 30 per cent to almost 100 per cent. It has not yet made its appearance in the sand wells on the flanks though it will probably do so in the not distant future. There seems to be a question as to whether the salt water will enter the sand from the lime on the crest or come in from the sides of the structure. It is quite possible that it will do both. With a fault of major proportions along the east side the whole structure may be open to water from this source.

A great deal of care has been taken in the casing of wells to eliminate the possibility of leaks between strata. This is particularly true in the lime area and both water and gas seem to have been effectively plugged. The 16-inch surface pipe, of which from 250 to 300 feet is run, is cemented to the top of the hole. The 9⅝ string is seated on the Checkerboard lime, between 5200 and 5300 feet, and cemented with 1500 sacks. As a flow string, 6⅝-inch casing is run to the Simpson at about 6100 feet. This last pipe is now cemented with 500 sacks where previously but 250 sacks were used.

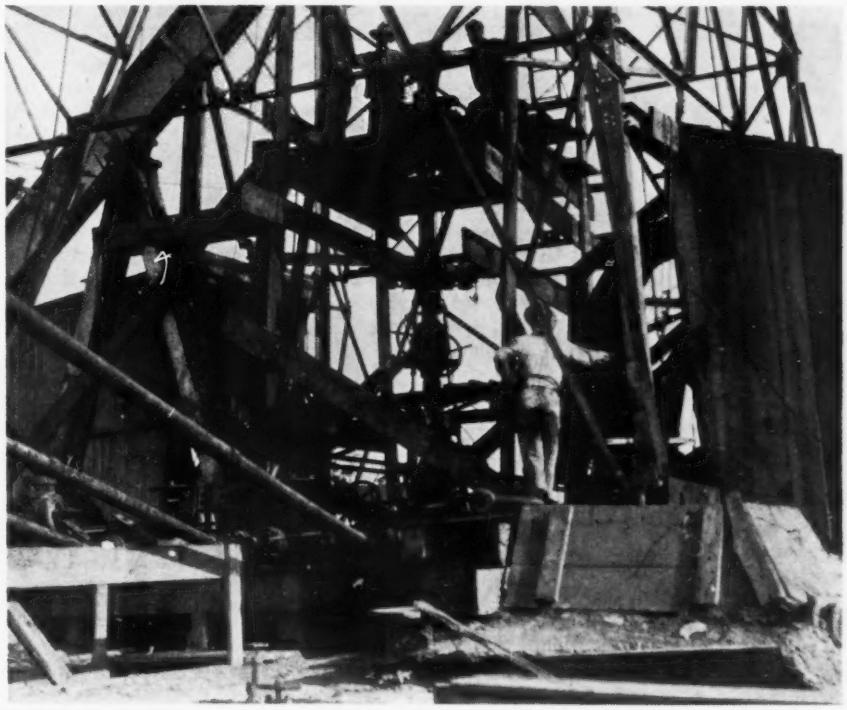
The first gas and oil sand encountered is the Hoover which is usually found around 4000 feet. In the Indian Territory Illuminating Oil Co., No. 1 Trosper, 13-11-3W, this formation swabbed 250 barrels of 38 gravity oil on test. The well had about 6,000,000 cubic feet of gas. On the higher wells of the field however, this sand has tested up to 35,000,000 cubic feet.

THE accompanying is the first of three articles on methods of developing and producing the Oklahoma City field. This article deals chiefly with the producing characteristics of the field and the methods employed in holding its daily output to market requirements—a minor part of what it is capable of producing. A subsequent article will describe the drilling methods and equipment used. In this, the reader will be given a look at the latest in equipment, for this 6,500-foot deep field calls for the best and heaviest that is made.—Editor.

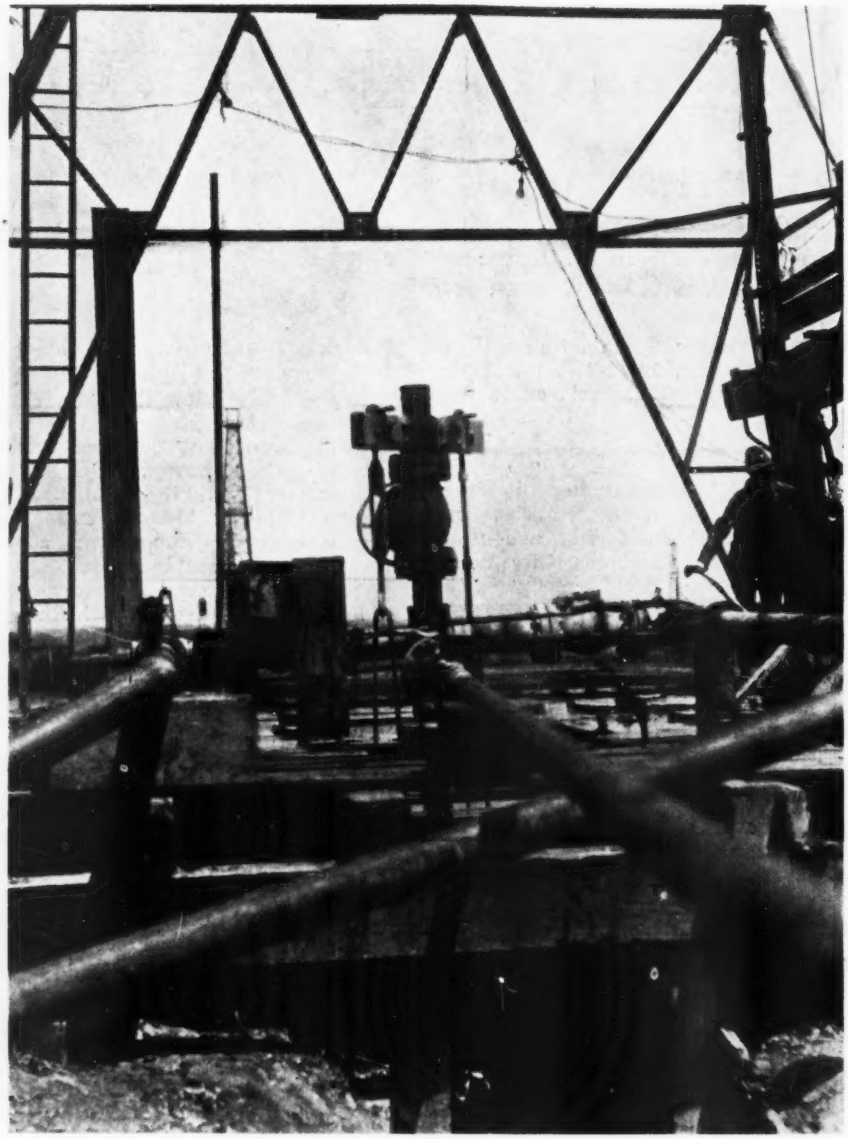
Immediately below the Hoover sand an uncorrelated stray sand is occasionally found. It contains a large amount of gas, having tested 65,000,000 cubic feet in the I.T.I.O. No. 1 Fuzzel, 13-11-3W. Due to the fact that this stray is not found over a wide area, it is thought to be just a lens. It probably has some connection with the upper sand from which the gas has migrated.

The Tonkawa sands which are found between 4150 feet and 4250 feet, are also possible oil producers. Good shows have been logged in them in several wells. They do not have any large amount of gas and in some wells have been found to contain salt water under a high hydrostatic head.

The largest gas horizons are the Layton, 4800 to 4900 feet, and the Oswego, 5950 to 6050 feet. Both gauge above 70,000,000 cubic feet over most of the field and have rock pressures in excess of 1800 pounds. The latter is a very porous formation and though it has not yet shown water at Ok-



Tubing a high pressure well by the Otis method in the Oklahoma City pool. With this set-up of controls this 85,000,000 cubic foot gas well was tubed with a tapered string of 3-inch and 4¾-inch tubing without the loss of gas or oil



Typical Christmas tree hook-up on the high pressure wells at Oklahoma City. Note how the fittings are tied down both ways. Both flow lines are shown on the left, the 3-inch line coming directly from the lower master gate being the remote control level

lahoma City, its record elsewhere indicates that it might do so in a short time.

Below these horizons there is but one other gas sand above the Simpson. This is the Prue and in many wells it has been estimated as being good for from 40,000,000 to 50,000,000 cubic feet. No water is encountered below 5400 feet until the drill has penetrated the Simpson.

With six gas sands cased off above the present producing horizon, it is quite evident that gas will be paying dividends when the oil is gone. For the time being however, all the operators are interested in the production of the latter. Several are already making plans for the future when the wells no longer flow.

The proration program now in force permits but 16 2/3 per cent of the potential of the field to be produced. Wells have been divided into several classes, each with a definite production period, and are allowed to flow but about one day in seven. Under this system, open flow or flowing with from 250 to 300 pounds back pressure, is the usual procedure. The result has been a fairly high gas-oil ratio with a consequent reduction in rock pressures.

As in the case of Seminole, when that field was flush, large back pressures raise, instead of lowering the amount of gas produced with the oil. Beaning of wells has caused the gas to come through the oil in slugs and brought about head flowing. Three instances will serve to illustrate.

In one case, large surface back pressure resulted in the raising of the gas-oil ratio from 875 to 1400 cubic feet. In another it was increased to 2100 from 1500 and in another from 1200 to 1400 cubic feet. These tests were of five days duration and made on both sand and lime wells.

The effect on the volume of oil produced was to reduce it by 25 per cent. From these experiments, and many others similar to them, it was decided that the present method of maintaining a lower back pressure with the master gate was the logical one. It seems that even under the usual system of proration, that of continuous production of but a per cent of a well's potential, low back pressures and part time production would get the best results. The foregoing statement refers to current volume of oil and not to ultimate yield. There is no question about the permanent injury to the field caused by the large gas-oil ratios.

On the wells that have ceased to flow other producing methods are being tried. Most of these still have fairly good gas volumes though they all make large amounts of salt water. Twenty are now on the gas lift. For this purpose 2½-inch tubing is used. Since the fluid column stands within 500 feet of the top of the hole, but 2500 feet of tubing is run. Working pressures of 450 pounds are maintained and fluid volumes in excess of 9000 barrels per day are handled. In most cases, 95 per cent of this is water. The gas-oil ratio on these wells is very low for the wells will flow themselves once they are started.

A number of large compressor plants have already been built. Clark, Cooper-Bessemer and Ingersoll-Rand compressors, most of which are being transferred from the Seminole field, are being used. They are 250 and 500 pound capacities.

The only tapered string of tubing in the field was installed recently in the Indian Territory Illuinmating Oil Co., No. 1 Williamson-Canfield, 24-11-3W. The experiment to be made with this method of producing the Oklahoma City wells is one that will be carefully watched by all the operators. It may offer a solution to the problem of how to reduce the gas-oil ratios and still maintain large oil production.

The well came in originally as a gas well with 86,000,000 cubic feet initial gauge. Shortly after its completion it began to make oil, which gradually increased to 750 barrels per day. High back pressure was applied in order to produce the oil with as little gas as possible. The result was to raise the fluid column so high that it killed the sand pressure and the well ceased to flow until it was again opened up.

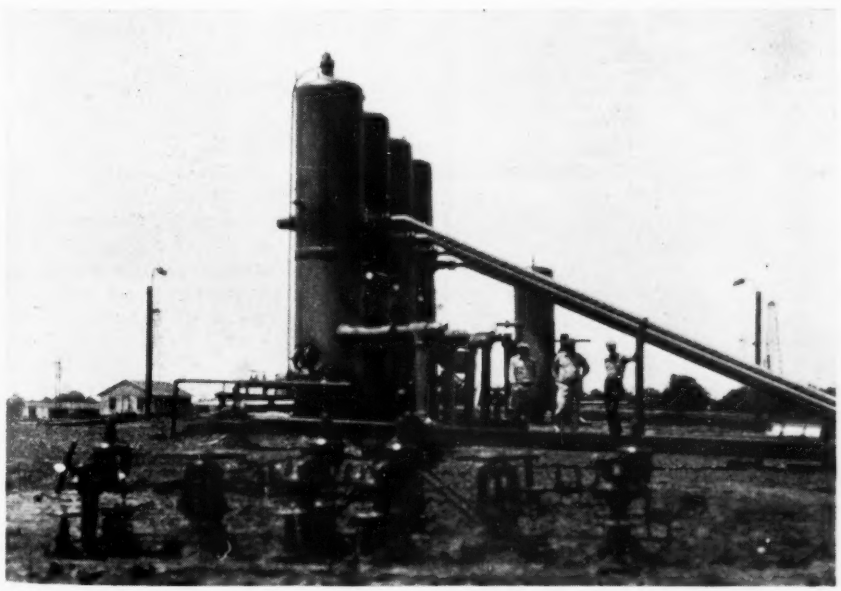
Using the Otis method of tubing high pressure wells without the loss of gas, 2700 feet of 3-inch tubing was run. On top of this, 2600 feet of 4¾ O. D. tubing completes the string. A Shaffer adjustable flow bean will be used in the flow fittings at the top of the well and experiments will be conducted with various size openings. Proponents of the tapered tubing method of flowing wells claim it to be the most economical and logical

way of reducing gas-oil ratios. If this should prove true in the Oklahoma City field it will do much toward maintaining high rock pressures and prolonging the flowing life of the wells.

An interesting method of handling a group of wells in a central battery of separators is to be found on the Trosper lease of the I. T. I. O. in 13-11-3W. One of these installations is illustrated herewith. The process is known as two stage gas-oil separation and functions much as does a manifold in the switching of wells. all the wells of the lease are connected to the high pressure separators and in them the major portion of the gas is removed from the oil. From them the oil goes to a low pressure separator of much larger size and from which more gas is taken, the oil passing through to the stock tanks by gravity.

The high pressure separators are of 500-pound working pressure and are products of the National Tank Co. Each can handle 3000 barrels of fluid and 30,000,000 cubic feet of gas. Most of the gas from this battery goes to the fuel lines, though a portion is blown to the air. The gas from the low pressure separator is piped to the gasoline plants for it will test in the neighborhood of one gallon per 1000 cubic feet.

Production problems in the Oklahoma City pool have been comparatively simple up to the present time. With the increased drilling, however, particularly in the hectic area of the town lots, there are bound to be disappointments in the not distant future. There is still something more than a question whether drilling one well to 10 acres was good practice. With this fact in mind, there seems to be little doubt as to what the outcome will be when as high as six are drilled in the same area.



Battery of high pressure separators, centrally located on a lease and serving several wells. The low pressure separator in the background takes its oil from the battery, and its gas goes to the gasoline plants. Gas taken from the high pressure tanks is put into the fuel lines

Group Formed to Develop Tar Sands of Athabasca

DENVER, June 26

A GROUP of Canadian and American oil men and capitalists, headed by Max W. Ball and B. C. Jones, of Denver, will undertake development of the so-called tar sands of the Athabasca region.

Development will proceed under new regulations recently announced by a joint committee of the Canadian departments of mines and interior. These regulations were approved by the provincial government of Alberta, to which control of all natural resources is soon to pass.

A principal provision in the new rules is that an applicant, who has satisfied the minister of the interior of his right to use a process for extracting the oil from sands, which process gives promise of being commercial in nature, may be given a permit.

This permit, when its terms have been complied with, ripens into a 21-year lease, renewable for 21 years. Such a permit was given to Mr. Ball on May 23, giving him the right at the end of two years to select a lease of 3840 acres out of any available Crown lands in Alberta.

The process which will be used in extracting the oil from the sands, which will be mined by open pit method, is known as the McClave process. In 1925, the Canadian mines department pronounced the McClave process, originally described in NATIONAL PETROLEUM NEWS*, to be the most promising water method for the extraction of oil. The invention of James Mason McClave, a mining engineer of Denver, the process has recently been taken over by Mr. Ball and his associates.

*June 10, 1925.

The oil sands on which the syndicate purposes to operate constitute the greatest oil deposit known in the world. Outcrops up to 200 feet in thickness extend for 260 miles along the Athabasca river and its tributaries. The saturated area exceeds 25,000 square miles, and the total oil content has been estimated by the U. S. Bureau of Mines at 250 billion barrels.

Of the total area, less than 20 square miles is of immediate importance, considering transportation, overburden and richness, but this limited area is estimated to hold a half billion barrels of oil. Such estimates are based upon extensive exploratory work, including outcrop sampling, shafting and core drilling, by the dominion and provincial governments.

The oil content of the sands runs from zero to 25 per cent. Some of the more accessible areas are known to average 14 per cent, which is about 33 gallons to the ton, or 46,000 barrels per acre for a 25-foot bed. The oil is black, asphaltic, and yields 40 to 50 per cent gasoline by the Cross or Dubbs cracking processes. Recent work done at the University of Alberta shows that the oil is easily susceptible to hydrogenation.

The McClave process, which has performed satisfactorily in a working model capable of handling about one half ton of sand daily, separates the oil from the sand grains by the use of a solution of bentonite, and removes it from the resulting pulp in flotation cells.

The group that is now undertaking to put this process to work on commercial scale will start with development and experimental work to learn the best procedure for large scale operations. Part of the work will be done in laboratories in the United States and part on the Clearwater Reserve of the Mines Department at McMurray, Alberta. Technical work on separation and refining will be handled by Crandall & Osmond, 17 Battery Place, New York.

Because the region is far from sources of petroleum supply and ocean transportation, the operators believe they have favorable market outlet. It is estimated that it would require the oil from 6000 tons of sand daily to supply northern Alberta

alone and the consumption is growing.

Plans call for the complete refining of the oil, producing gasoline and other products as well as paving materials. Much pioneer work has been done, the results of which are available to Mr. Ball and his group. For several years S. C. Ells, of the dominion mines branch, devoted all his time to making quantitative surveys of the tar sands country and other Canadian technologists have done laboratory work on extraction and refining.

The first unit probably will be erected on the Horse River Reserve, about four miles south of McMurray. This is near the railroad.

First "Washing In" Attempt Is Successful in Okla. City

OKLAHOMA CITY, June 27

NEW to Oklahoma City field is the practice of "washing in" wells, although it has been used elsewhere, notably in California. Its first demonstration in Oklahoma's principal pool was given June 19 and 20 when the Indian Territory Illuminating Oil Co. successfully completed its No. 1 Elizabeth Trosper, northeast corner of 14-11-3.

Common practice in the field is to drill into the pay with the hole loaded with mud, bail down the mud until the pressure from the formation overbalances the column, then let the well flow into the air until it was cleaned. Thus, some oil would go into the air, along with gas and mud and occasionally there would be some difficulty in getting the well shut in.

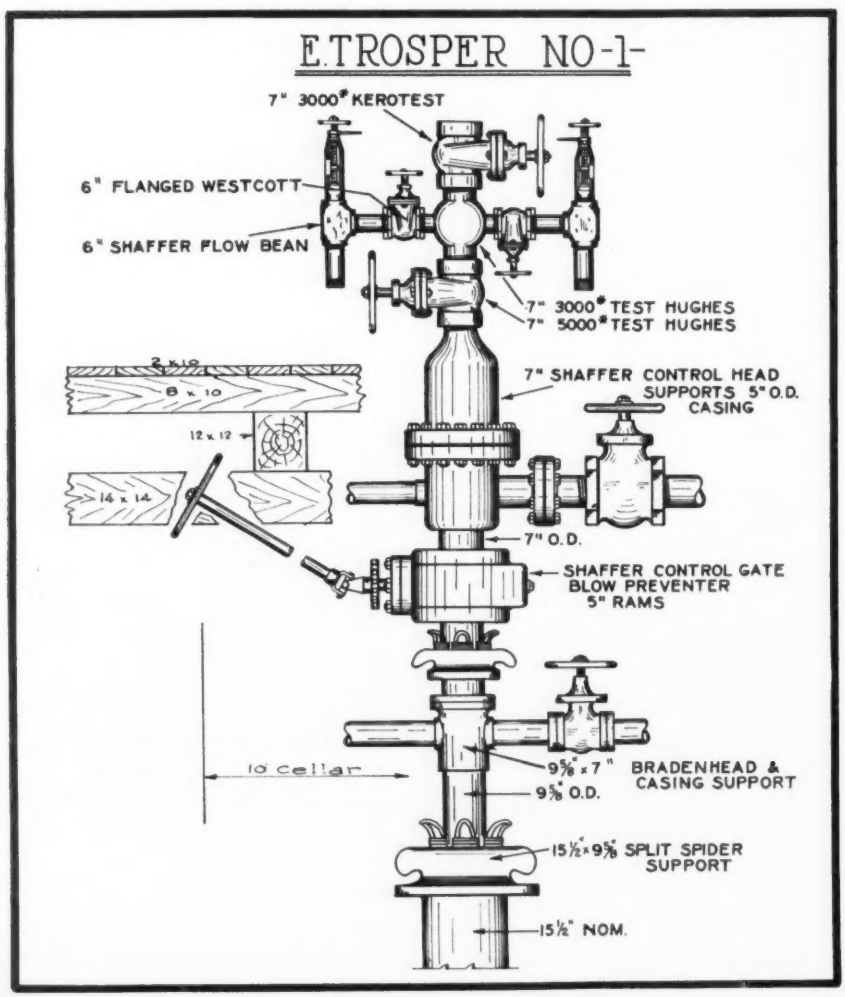
The method possesses certain hazards in that fire might be started, although none has been. It was not considered bad so long as development was confined to the broad, open spaces. With the intensive drilling in the north part of the field, where many people live and a number of industries are located, it became more serious to have a well open to atmosphere.

The "washing-in" method involved the use of a string of 5-inch outside diameter pipe which was run inside the regular 7-inch flow string. It was run in while the 7-inch was full of mud weighing 10 pounds to the gallon. The bottom 200 feet of the 5-inch was perforated with 4000 holes of ⅜-inch diameter. A wash-pipe assembly was run inside the 5-inch, consisting of tubing packed off to assure circulation past the pay horizon.

With these arrangements completed, water was pumped down the 5-inch, displacing the mud and moving it out the annular space between the 5 and 7-inch. When the returns into the slush pit showed practically clear water, bailing was started inside the 5-inch.

After bailing for four hours and 25 minutes, lowering the water column from 1500 to 1800 feet, the well made one flow into the pit through the separator. Forty minutes later the well "came in" under perfect control. There was no oil in the atmosphere except the small amount that went into the pit with the last of the water. The first oil was cut slightly, but this soon cleared up. In 16 hours and 20 minutes the well flowed 6271 barrels net oil under 30 pounds back pressure. Gauge of the gas showed approximately eight million feet on daily basis.

Total depth of the well is 6436 feet with the 7-inch set at 6276 feet. The pay formation is in the Simpson.



Connections on Elizabeth Trosper well completed by "washing in." This is not to scale. For example, flow lines are six-inch

Wilbur Extending Oil Prospecting Permits

WASHINGTON, June 26.—Secretary Wilbur of the Department of the Interior, is extending the time on thousands of oil and gas prospecting permits upon the recommendation of the special departmental committee appointed more than a year ago when the Hoover policy of restricting prospecting on public lands was inaugurated. Solicitor Finney of the Department of the Interior is head of the committee. Extensions have been made of some permits where their holders did not expect such action. Some permits heretofore canceled also have been reinstated.

Extensions are being granted to June 15, 1932, on the condition that no new wells be begun prior to June 15, 1931, unless sooner authorized or required by the Secretary of the Interior.

These extensions are being made

on a liberal basis in recognition, seemingly, of the fact that hardships were caused by the change of policy announced by President Hoover a few days after he came into office. The policy of no permits was put into effect without warning and evoked vigorous protests.

A typical group of extensions is that represented in Washington by M. M. Ashbaugh. In one day Mr. Ashbaugh received notice that 144 permits held by his clients, known as the Conley group, in southeastern Utah, had been extended upon recommendation of the departmental committee. Applications for extension had been on fire for a year or more.

The Conley group, located in Emory and Wayne counties, is a development of the extreme wildcat type since the lands are located in the upper Colorado River canyon district approximately 50 miles from a railroad. It is extremely difficult and expensive to carry on any kind of work. Most of these permits were issued in 1927 and have been extended from time to time. The applications upon which the extensions were granted were filed in May, June, July and August of last year.

These permits are controlled and managed by a group of operators which has spent more than $150,000 in geological surveys. Because of the favorable reports by geologists the operators were able to interest the Texas Production Co. and the Philips Petroleum Co. to the extent of each drilling a well. The Texas well was abandoned at a depth of 2500 feet on account of the loss of tools and other physical difficulties. The Phillips well was abandoned at a depth of 5,139 feet, no oil in commercial quantities having been found, although the results obtained, from a prospecting point of view were deemed quite favorable. Plans for more drilling were abandoned after the announcement of the President's conservation policy.

WASHINGTON, June 23.—The chance of the Oregon Basin Oil & Gas Co. of getting prospecting permits on 800 acres in Oregon Basin received a set-back recently when the House of Representatives failed to pass the bill when Representative Blanton of Texas, objected. The bill had been passed by the Senate under the sponsorship of Senator Warren of Wyoming. Two years ago the House passed a bill to award the company its rights and the Senate failed to pass the measure.

WASHINGTON—Scott Turner, director of the U. S. Bureau of Mines, received on June 23 the honorary degree of Doctor of Laws from his Alma Mater, the University of Michigan. A few days before he received the honorary degree of Doctor of Science from the Colorado School of Mines.

Tycos

Recording Thermometers

The Tycos Bi-Record Recording Thermometer (Gives two records in different colored inks).

Write for further information on these popular instruments. Ask for Tycos Catalog Part 1700.

Tycos Recording Thermometers are used in every oil producing, refining or gasoline plant process where temperature is a factor and accurate indications or records are essential.

In oil lines from wells, compressor discharge lines, crude oil stills, steam stills, bubble towers, cracking units, cold settling tanks, chilling tanks, wax sweaters, etc., *Tycos* Recording Thermometers are adaptable for each individual application and required temperature range.

The *Tycos* Bi-Record Recording Thermometer is widely used in the oil industry on systems where it is desired to record two individual temperatures or the temperature rise and drop between two points in a circulating system as in inlet and outlet pipe still lines, heat exchanger lines, brine lines in wax chillers, chilling tanks, cold settling tanks, condenser lines, and similar applications.

Tycos Recording Thermometers are highly sensitive in their action, accurate in their records and rugged in construction, factors which have made them so popular and widely used in the oil industry.

Taylor Instrument Companies

ROCHESTER, N. Y., U. S. A.

CANADIAN PLANT, TYCOS BUILDING, TORONTO

MANUFACTURING DISTRIBUTORS IN GREAT BRITAIN
SHORT & MASON, LTD., LONDON, E-17

Tycos Temperature Instruments

INDICATING-RECORDING-CONTROLLING

Gott Water Cans & Coolers

Have a cool supply of clean-pure sparkling water... ready to drink at all times. No matter where you are the GOTT Water Can is health insurance.

Your supply store has them.

Gotkool

GOTT Water Cans 1; gal; 3 gal; 5 gal; and 10 gal.

GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.

H. P. GOTT MFG. CO. · Winfield, Kansas

KEEP PURE DRINKING WATER ALWAYS HANDY

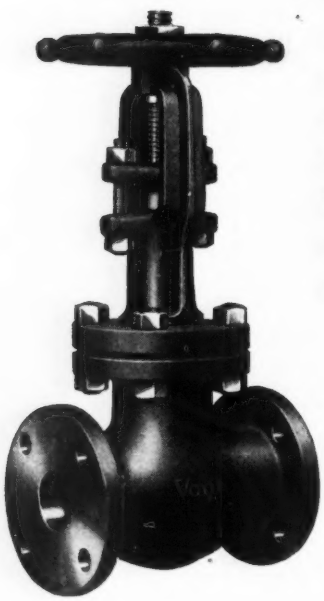
Stainless Steel

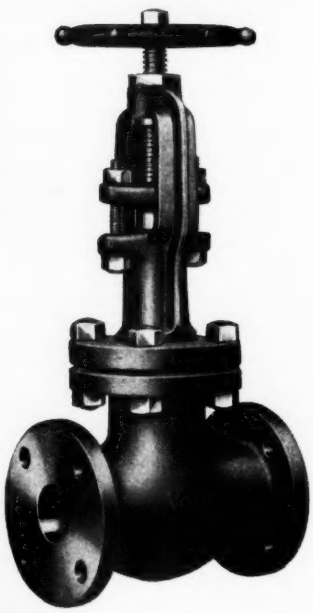
Vogt

Drop Forged Valves Fittings and Flanges

Only a few years ago stainless steel was unheard of, but today it is the all purpose metal and is rapidly gaining in popularity because of its great corrosion and rust resisting qualities.

No better use could be made of stainless steel than for valves and fittings that are subjected to the severest service where both corrosion and erosion are encountered. Since we are prepared to furnish a complete line of valves, fittings, and flanges forged entirely of stainless steel, we welcome your inquiries.





Write for further details

HENRY VOGT MACHINE CO.
(Incorporated)
LOUISVILLE, KY.
New York Chicago Philadelphia Cleveland Dallas

Manufacturers of:
Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

Tables Compiled for Correcting Oil Volumes for Temperature

By Guy S. Mitchell*

IN DEALING with oil volumes, we find it necessary to have some standard temperature to which we always correct the volume for temperature so that, if desired to do so, we may check that volume when the oil temperature has changed. Oil volumes are, therefore, always corrected to 60 F. for the purpose of comparison. To make this correction, it is necessary to have the observed temperature and volume and the proper coefficient factor. The method of making such calculation is shown in one of the following paragraphs and when it is necessary to make many such corrections, the method becomes tedious and lengthy.

The tables shown in this article have, therefore, been assembled with the idea in mind of devising a method for obtaining the corrected volumes which will be both accurate and speedy. It is obvious that besides taking longer, there is more chance for error when the volumes are calculated than when they are read from a table. There is also a long-felt need in the petroleum industry for such tables, especially for tank-car lots of petroleum products.

The practices used in obtaining the corrected volumes lack considerable uniformity throughout the industry and any development of a method which will promote more accuracy and insure better uniformity should be welcomed.

The variations in methods used and conditions experienced are shown in some of the following paragraphs. An outline is given of how to best obtain accurate results when correcting oil volumes for temperature. However, the degree of accuracy attained may be varied according to the use to which the results are to be applied. For example, in referee work it is obvious that every possible precaution should be taken to attain the highest accuracy possible.

There are several factors to be considered in making temperature corrections for volume and these may be classed as follows:

1. Method of obtaining the gravity of oil.
2. Method of obtaining the temperature of the oil.
3. Method of gauging the volume of the oil.
4. Method of correcting the volume for temperature.

All of these factors are of considerable importance and if due precaution is not taken in each case, a considerable error may be experienced. The first and fourth should, however, present no difficulties when the proper procedure is followed while extreme care is necessary in determining the second and third factors.

*Assistant Chief Chemist, Barnsdall Refineries, Inc.

1. Method of Obtaining the Gravity of the Oil

It is essential that the gravity of the oil be known in order that the oil may be placed in the proper group for obtaining the coefficient to be used. The method used for obtaining the gravity of the oil is the A.P.I. which method is the standard used in the petroleum industry. It is not necessary that extreme accuracy be obtained in determining the gravity unless the gravity lies near the changing point for two of the groups in which case an error of .1 degree A.P.I. may place the oil in the wrong group.

It is not, however, deemed necessary to give, in this article, the details of the proper procedure to use in determining the gravity since this may be found in Bureau of Standards Circular No. 154. The hydrometer should be of the precision grade and

TABLE NO. I.

OBSERVED VOLUME	VOLUME AT 60°F. (COEFF. .0004 FOR GRAV. UP TO 34.9° A.P.I.) OBSERVED TEMPERATURE														
	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120
8001	7899	7893	7887	7880	7874	7867	7862	7855	7850	7843	7837	7831	7823	7818	7811
8002	7900	7894	7888	7881	7875	7868	7863	7856	7851	7844	7838	7832	7824	7819	7812
8003	7901	7895	7889	7882	7876	7869	7864	7857	7852	7845	7839	7833	7825	7820	7813
8004	7902	7896	7890	7883	7877	7870	7865	7858	7853	7846	7840	7834	7826	7821	7814
8005	7903	7897	7891	7884	7878	7871	7866	7859	7854	7847	7841	7834	7827	7822	7815
8006	7904	7898	7892	7885	7879	7872	7867	7860	7855	7848	7842	7835	7828	7823	7816
8007	7905	7899	7892	7886	7880	7873	7868	7861	7856	7849	7843	7836	7829	7824	7817
8008	7906	7900	7893	7887	7881	7874	7869	7862	7857	7850	7844	7837	7830	7825	7818
8009	7907	7901	7984	7888	7882	7875	7870	7863	7858	7851	7845	7838	7831	7826	7819
8010	7908	7902	7895	7889	7883	7876	7871	7864	7859	7852	7846	7849	7832	7827	7820
8011	7909	7903	7896	7890	7884	7877	7872	7865	7860	7853	7847	7840	7833	7828	7821
8012	7910	7904	7897	7891	7885	7878	7873	7866	7861	7854	7848	7841	7834	7829	7822
8013	7911	7905	7898	7892	7886	7879	7874	7867	7862	7855	7849	7842	7835	7830	7823
8014	7912	7906	7899	7893	7887	7880	7875	7868	7863	7856	7850	7843	7836	7830	7824
8015	7913	7907	7900	7894	7888	7881	7876	7869	7864	7857	7851	7844	7837	7831	7825
8016	7914	7908	7901	7895	7889	7882	7877	7870	7864	7858	7852	7845	7838	7832	7826
8017	7915	7909	7902	7896	7890	7883	7878	7871	7865	7859	7853	7846	7839	7833	7827
8018	7916	7910	7903	7897	7891	7884	7878	7872	7866	7860	7854	7847	7840	7834	7828
8019	7917	7911	7904	7898	7891	7885	7879	7873	7867	7861	7855	7848	7841	7835	7829
8020	7918	7912	7905	7899	7892	7886	7880	7874	7868	7862	7856	7849	7842	7836	7830
8021	7919	7913	7906	7900	7893	7887	7881	7875	7869	7863	7857	7850	7843	7837	7831
8022	7920	7914	7907	7901	7894	7888	7882	7876	7870	7864	7858	7851	7844	7838	7832
8023	7921	7915	7908	7902	7895	7889	7883	7877	7871	7865	7859	7852	7845	7839	7833
8024	7922	7916	7909	7903	7896	7890	7884	7878	7872	7866	7860	7853	7846	7840	7834
8025	7923	7917	7910	7904	7897	7891	7885	7879	7873	7867	7860	7854	7847	7841	7835
8026	7924	7918	7911	7905	7898	7892	7886	7880	7874	7868	7861	7855	7848	7842	7836
8027	7925	7919	7912	7906	7899	7893	7887	7881	7875	7869	7862	7856	7849	7843	7837
8028	7926	7920	7913	7907	7900	7894	7888	7882	7876	7870	7863	7857	7850	7844	7838
8029	7927	7921	7914	7908	7901	7895	7889	7883	7877	7871	7864	7858	7851	7845	7839
8030	7928	7922	7915	7909	7902	7896	7890	7884	7878	7872	7865	7859	7852	7846	7840

TABLE NO. II.

OBSERVED VOLUME	VOLUME AT 60° F. (COEFF. .0006 FOR GRAV. 51.0 — 63.9° A.P.I.) OBSERVED TEMPTERATURE (Degrees F.)														
	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
8001	7991	7982	7972	7962	7952	7943	7933	7923	7914	7904	7895	7884	7875	7865	7855
8002	7992	7983	7973	7963	7953	7944	7934	7924	7915	7905	7896	7885	7876	7866	7856
8003	7993	7984	7974	7964	7954	7945	7935	7925	7916	7906	7897	7886	7877	7867	7857
8004	7994	7985	7975	7965	7955	7946	7936	7926	7917	7907	7898	7887	7878	7868	7858
8005	7995	7986	7976	7966	7956	7947	7937	7927	7918	7908	7899	7888	7879	7869	7859
8006	7996	7987	7977	7967	7957	7948	7938	7928	7919	7909	7900	7889	7880	7870	7860
8007	7997	7988	7978	7968	7958	7949	7939	7929	7920	7910	7901	7890	7880	7871	7861
8008	7998	7989	7979	7969	7959	7950	7940	7930	7921	7911	7901	7891	7881	7872	7862
8009	7999	7990	7980	7970	7960	7951	7941	7931	7922	7912	7902	7892	7882	7873	7863
8010	8000	7991	7981	7971	7961	7952	7942	7932	7923	7913	7903	7893	7883	7874	7864
8011	8001	7992	7982	7972	7962	7953	7943	7933	7924	7914	7904	7894	7884	7875	7865
8012	8002	7993	7983	7973	7963	7954	7944	7934	7925	7915	7905	7895	7885	7876	7866
8013	8003	7994	7984	7974	7964	7955	7945	7935	7926	7916	7906	7896	7886	7877	7867
8014	8004	7995	7985	7975	7965	7955	7946	7936	7927	7917	7907	7897	7887	7878	7868
8015	8005	7996	7986	7976	7966	7956	7947	7937	7928	7918	7908	7898	7888	7879	7869
8016	8006	7997	7987	7977	7967	7957	7948	7938	7929	7919	7909	7899	7889	7880	7870
8017	8007	7998	7988	7978	7968	7958	7949	7939	7930	7920	7910	7900	7890	7881	7871
8018	8008	7999	7989	7979	7969	7959	7950	7940	7931	7921	7911	7901	7891	7882	7872
8019	8009	8000	7990	7980	7970	7960	7951	7941	7932	7922	7912	7902	7892	7883	7873
8020	8010	8001	7991	7981	7971	7961	7952	7942	7933	7923	7913	7903	7893	7884	7874
8021	8011	8002	7992	7982	7972	7962	7953	7943	7934	7924	7914	7904	7894	7885	7875
8022	8012	8003	7993	7983	7973	7963	7954	7944	7935	7925	7915	7905	7895	7886	7876
8023	8013	8004	7994	7984	7974	7964	7955	7945	7936	7926	7916	7906	7896	7887	7877
8024	8014	8005	7995	7985	7975	7965	7956	7946	7937	7927	7917	7907	7897	7888	7878
8025	8015	8006	7996	7986	7976	7966	7957	7947	7938	7928	7918	7908	7898	7889	7879
8026	8016	8007	7997	7987	7977	7967	7958	7948	7939	7929	7919	7909	7899	7890	7880
8027	8017	8008	7998	7988	7978	7968	7959	7949	7940	7930	7920	7910	7900	7891	7881
8028	8018	8009	7999	7989	7979	7969	7960	7950	7940	7931	7921	7911	7901	7892	7882
8029	8019	8010	8000	7990	7980	7970	7961	7951	7941	7932	7922	7912	7902	7893	7883
8030	8020	8011	8001	7991	7981	7971	7962	7952	7942	7933	7923	7913	7903	7893	7884

both it and the thermometer used for taking the temperature of the oil while getting the gravity should be properly checked by instruments certified by the Bureau of Standards.

2. Method of Taking the Temperature of the Oil in the Tank Car

This factor is indeed a very important one and one which requires extreme care in its determination. The type of thermometer used, the length of time the thermometer is submerged, the depth to which the thermometer is lowered in the car, and other conditions all have a decided effect on the result obtained.

The type of thermometer which is most commonly used, that is the brass or wooden case type of thermometer fitted with about a two-ounce cup with the mercury bulb in the center, is accepted as standard. It is, however, advisable to check these for accuracy against a certified thermometer.

The thermometer should be suspended in the oil until the temperature reading has become constant, and experience of different refiners has shown that the length of time for such will vary from several minutes up to one hour, however, the usual time is five to 10 minutes. This time will vary with different oils and other conditions such as the temperature of the oil.

It is best that the temperature be taken immediately after loading, whenever possible, although it is obvious that the temperature must be taken at the same time the car is gauged. If the oil is allowed to stand, stratification may take place and render it much more difficult to get an accurate average temperature of the oil in the car. Several instances have been recorded (1) in which the maximum variation in temperature

TABLE NO. III.

OBSERVED VOLUME	VOLUME AT 60° F. (COEFF. .0006 FOR GRAV. 79.0—88.9° A.P.I.) OBSERVED TEMPERATURE (Degrees F.)														
	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
8001	7988	7975	7963	7949	7936	7923	7911	7898	7891	7871	7859	7846	7833	7819	7807
8002	7989	7976	7964	7950	7937	7924	7912	7899	7892	7872	7860	7847	7834	7820	7808
8003	7990	7977	7965	7951	7938	7925	7913	7900	7893	7873	7861	7848	7835	7821	7809
8004	7991	7978	7966	7952	7939	7926	7914	7901	7894	7874	7862	7849	7836	7822	7809
8005	7992	7979	7967	7953	7940	7927	7915	7902	7895	7875	7863	7850	7837	7823	7810
8006	7993	7980	7968	7954	7941	7928	7916	7903	7896	7876	7863	7851	7838	7824	7811
8007	7994	7981	7969	7955	7942	7929	7917	7904	7897	7877	7864	7852	7839	7825	7812
8008	7995	7982	7970	7956	7943	7930	7918	7905	7898	7878	7865	7853	7840	7826	7813
8009	7996	7983	7971	7957	7944	7931	7918	7906	7899	7879	7866	7854	7841	7827	7814
8010	7997	7984	7972	7958	7945	7932	7919	7907	7900	7880	7867	7855	7842	7828	7815
8011	7998	7985	7973	7959	7946	7933	7920	7908	7901	7881	7868	7856	7843	7829	7816
8012	7999	7986	7974	7960	7947	7934	7921	7909	7902	7882	7869	7857	7844	7830	7817
8013	8000	7987	7975	7961	7948	7935	7922	7910	7903	7883	7870	7858	7845	7831	7818
8014	8001	7988	7976	7962	7949	7936	7923	7911	7904	7884	7871	7859	7846	7832	7819
8015	8002	7989	7977	7963	7950	7937	7924	7912	7905	7885	7872	7860	7847	7833	7820
8016	8003	7990	7978	7964	7951	7938	7925	7913	7906	7886	7873	7860	7848	7834	7821
8017	8004	7991	7979	7965	7952	7939	7926	7914	7907	7887	7874	7861	7849	7835	7822
8018	8005	7992	7980	7966	7953	7940	7927	7915	7908	7888	7875	7862	7850	7836	7823
8019	8006	7993	7981	7967	7954	7941	7928	7916	7909	7889	7876	7863	7851	7837	7824
8020	8007	7994	7982	7968	7955	7942	7929	7917	7910	7890	7877	7864	7852	7838	7825
8021	8008	7995	7982	7969	7956	7943	7930	7918	7911	7891	7878	7865	7853	7839	7826
8022	8009	7996	7983	7970	7957	7944	7931	7919	7912	7892	7879	7866	7854	7840	7827
8023	8010	7997	7984	7971	7958	7945	7932	7920	7913	7893	7880	7867	7855	7841	7828
8024	8011	7998	7985	7972	7959	7946	7933	7920	7914	7894	7881	7868	7855	7842	7829
8025	8012	7999	7986	7973	7960	7947	7934	7921	7915	7895	7882	7869	7856	7843	7830
8026	8013	8000	7987	7974	7961	7948	7935	7922	7916	7896	7883	7870	7857	7844	7831
8027	8014	8001	7988	7975	7962	7949	7936	7923	7917	7897	7884	7871	7858	7845	7832
8028	8015	8002	7989	7976	7963	7950	7937	7924	7918	7898	7885	7872	7859	7846	7833
8029	8016	8003	7990	7977	7964	7951	7938	7925	7919	7899	7886	7873	7860	7847	7834
8030	8017	8004	7991	7978	7965	7952	7939	7926	7920	7900	7887	7874	7861	7848	7835

REFINERIES
SAVE WITH THIS NEW RETURN BEND

The special features of these fittings are covered by Patent Application No. 315274, Oct. 26, 1928, series of 1925. Method of attaching these fittings onto tubes, by means of a jig, is covered by Patent No. 1746535.

WHEN time means money, and both can be saved by the use of Key Sectional Type Stream Line Flow Return Bends—

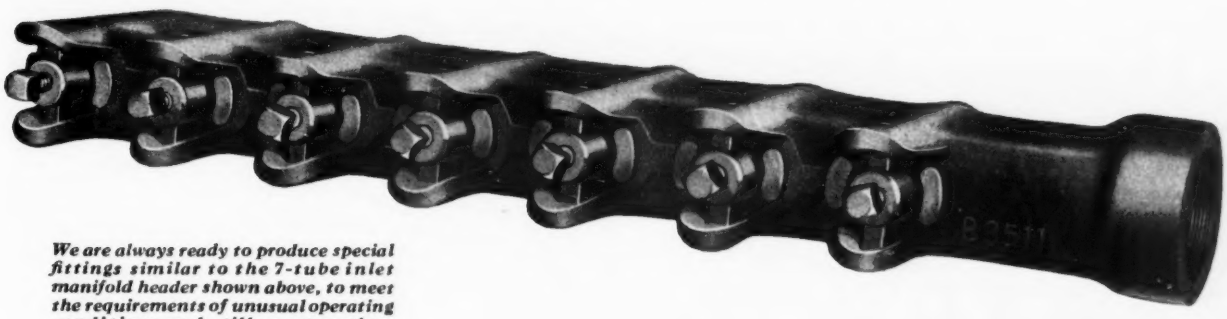
—it becomes a duty to learn what these fittings accomplish for the operator of tube or pipe stills.

The separable feature of this return bend allows replacement of single tubes without the loss of others. Quickly dismantled, it provides a saving in time when cleaning tubes. Its design guarantees a minimum pressure drop through the return bends of approximately 25%.

The construction is forged steel throughout, except the cast steel U-bend. This being the only part subject to extreme wear, it may be replaced while leaving the rest of the fitting intact.

The Key Sectional Type Stream Line Flow Return Bend is universally applicable to every kind of tube or pipe still, and to all operating temperatures and pressures. It is adapted to very close spacing of tubes.

A request will bring full information about the entire line of Key Refinery Fittings.



We are always ready to produce special fittings similar to the 7-tube inlet manifold header shown above, to meet the requirements of unusual operating conditions and still construction.

KEY BOILER EQUIPMENT CO.
EAST ST. LOUIS, ILL., U.S.A.

TABLE NO. IV.

OBSERVED VOLUME				VOLUME AT 60° F. (COEFF. .0004 FOR GRAV. UP TO 34.9° A.P.I.) OBSERVED TEMPERATURE (Degrees F.)												
				92	94	96	98	100	102	104	106	108	110	112	114	116	118	120
2020	4040	....	10,101	9973	9965	9957	9948	9940	9932	9925	9917	9910	9902	9894	9886	9877	9870	9862
....	....	6061	10,102	9974	9966	9958	9949	9941	9933	9926	9918	9911	9903	9895	9887	9878	9871	9863
....	4041	6062	10,103	9975	9967	9959	9950	9942	9934	9927	9919	9912	9904	9896	9888	9879	9872	9864
....	....	....	10,104	9976	9968	9960	9951	9943	9935	9928	9920	9913	9905	9897	9889	9880	9873	9865
2021	4042	6063	10,105	9977	9969	9960	9952	9944	9936	9929	9921	9914	9906	9898	9890	9881	9874	9866
....	....	....	10,106	9978	9970	9961	9953	9945	9937	9930	9922	9915	9907	9899	9891	9882	9875	9866
....	....	6064	10,107	9979	9971	9962	9954	9946	9938	9931	9923	9916	9908	9900	9892	9883	9876	9867
....	4043	6065	10,108	9980	9972	9963	9955	9947	9939	9932	9924	9917	9909	9901	9893	9884	9877	9868
....	....	....	10,109	9981	9973	9964	9956	9948	9940	9933	9925	9918	9910	9902	9894	9885	9878	9869
2022	4044	6066	10,110	9982	9974	9965	9957	9949	9941	9934	9926	9919	9911	9903	9895	9886	9878	9870
....	....	....	10,111	9983	9975	9966	9958	9950	9942	9935	9927	9920	9912	9904	9896	9887	9879	9871
....	....	6067	10,112	9984	9975	9967	9959	9951	9943	9936	9928	9913	9913	9905	9897	9888	9880	9872
....	4045	6068	10,113	9985	9976	9968	9960	9952	9944	9937	9929	9922	9914	9906	9898	9888	9881	9873
....	....	....	10,114	9986	9977	9969	9961	9953	9945	9938	9930	9923	9915	9907	9899	9889	9882	9874
2023	4046	6069	10,115	9987	9978	9970	9962	9954	9946	9939	9931	9924	9916	9908	9900	9890	9883	9875
....	....	....	10,116	9988	9979	9971	9963	9955	9947	9940	9932	9925	9917	9909	9901	9891	9884	9876
....	....	6070	10,117	9989	9980	9972	9964	9956	9948	9941	9933	9926	9918	9910	9902	9892	9885	9877
....	4047	6071	10,118	9990	9981	9973	9965	9957	9949	9942	9934	9927	9919	9911	9902	9893	9886	9878
....	....	....	10,119	9990	9982	9974	9966	9958	9950	9943	9935	9928	9920	9912	9903	9894	9887	9879
2024	4048	6072	10,120	9991	9983	9975	9967	9959	9951	9944	9936	9929	9921	9913	9904	9895	9888	9880
....	....	....	10,121	9992	9984	9976	9968	9960	9952	9945	9937	9930	9922	9914	9905	9896	9889	9881
....	....	6073	10,122	9993	9985	9977	9969	9961	9953	9946	9938	9931	9923	9914	9906	9897	9890	9882
....	4049	6074	10,123	9994	9986	9978	9970	9962	9954	9947	9939	9932	9924	9915	9907	9898	9891	9883
....	....	....	10,124	9995	9987	9979	9971	9963	9955	9948	9940	9933	9925	9916	9908	9899	9892	9884
2025	4050	6075	10,125	9996	9988	9980	9972	9964	9956	9949	9941	9934	9926	9917	9909	9900	9893	9885
....	....	....	10,126	9997	9989	9981	9973	9965	9957	9950	9942	9935	9927	9918	9910	9901	9894	9886
....	....	6076	10,127	9998	9990	9982	9974	9966	9958	9951	9943	9936	9927	9919	9911	9902	9895	9887
....	4051	6077	10,128	9999	9991	9983	9975	9967	9959	9952	9944	9937	9928	9920	9912	9903	9896	9888
....	....	....	10,129	10000	9992	9984	9976	9968	9960	9953	9945	9938	9929	9921	9913	9904	9897	9889
2026	4052	6078	10,130	10001	9993	9985	9977	9969	9961	9954	9946	9939	9930	9922	9914	9905	9898	9890

due to stratification was about 40° F. and the minimum about 10° F. or 12° F. Such instances serve to illustrate that extreme care is necessary in determining the temperature of a tank car of oil.

A method which has been more or less uniformly agreed to by a number of refiners is as follows:

The sum of the temperature near the bottom, plus the temperature near the top, plus eight times the temperature in the middle divided by 10 gives the average temperature of the oil. The thermometer should be left in each position 5 minutes or more. Top and bottom positions are considered to be about eight inches from the outer edge of the oil.

If this method is not used and only one temperature is taken, the thermometer should be repeatedly raised and lowered from bottom to top position while the thermometer is being submerged, so as to get as nearly an average temperature as possible.

3. Method of Gauging the Volume of Oil in the Car

This factor is no doubt usually determined with a fair degree of accuracy but may at times cause considerable error. The gauge should be taken on the side of the dome toward the end of the car. If a gauge pole is used, the pole should be held in a vertical position while gauging.

Apparently the main source of error in gauging is entrapped air in the oil, which in the case of heavy oils such as bright stock or heavier the error may be considerable. Care should, therefore, be taken in loading such oils so as to avoid error from this source. When the oil does show the presence of entrapped air, gauging should be deferred 24 hours, or until the oil is free from air.

4. Method of Calculating the Volume Corrections

After having determined the first three factors mentioned, the corrected volume can then be calculated. There are two methods in common use, one of which is a closely approximate method ordinarily but may in some cases give considerable error.

The standard method makes use of the factors given in Bureau of Standards circular 154. Only a part of these, however, are used as shown in the "Abridged Value Correction Table for Petroleum Oils." In this the oils have been divided into six groups instead of using the coefficient for each gravity. The six groups are divided as shown in the following table:

Group No.	Coefficient of Expansion @ 60°F.	Corresponding Degrees A.P.I.	Range of Group (Degrees A.P.I. @ 60°F.)
I	0.0004	22	Up to 34.9
II	0.0005	44	35 to 50.9
III	0.0006	58	51 to 63.9
IV	0.0007	72	64 to 78.9
V	0.0008	86	79 to 88.9
VI	0.0085	91	89 and higher

The abridged table is calculated using these coefficients and is intended to be used as a supplement to Circular 154, giving a short and convenient method when extreme accuracy is not required. The table gives the factors by which to multiply a certain volume of oil at a given temperature to convert it to the corrected volume at 60° F. An example illustrating the use of the table and the proper method of calculation for correcting the volume to 60° F. is given below.

Example:

What is the volume at 60°F. of 8010 gallons of oil (25.0° A.P.I.) at a temperature of 92°F.

The factor from the abridged table for oils with a gravity up to 34.9 at a temperature of 92° F. is .9873.

Therefore, the corrected volume at 60°F. is

8010 x .9873 or 7908 gallons

The other method which is used to some extent is calculated as follows, for the problem given above:—

The correction is taken to be .04 per cent of above or below 60°F.

Therefore, the correction to be made is

8010 x (.0004 x 32) or .0128=103

and the corrected volume is

8010—103=7907 gallons

This shows the method to be in error by one gallon but other cases may be cited, however, which show an error of ten gallons or more.

In accordance with example No. 1 given above, tables have been arranged for obtaining the corrected volumes directly. The tables show the volumes corrected for temperature for each gallon variation in volume and two-degree intervals in temperature. The examples given in one of the following paragraphs illustrate how the tables are used. The tables only show corrections for 2° F. intervals since a number of refiners record the temperatures only in even degrees. Also it is

ADVERTISING PAGES REMOVED

TABLE NO. V.

OBSERVED VOLUME			VOLUME AT 60° F. (COEFF. .0005 FOR GRAV. 35.0—50.9° A.P.I.) OBSERVED TEMPERATURE (Degrees F.)													
			62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
2020	4040	....	10,101	10091	10081	10071	10062	10052	10041	10030	10020	10011	10001	9991	9981	9971	9961	9950
....	....	6061	10,102	10092	10082	10072	10063	10053	10042	10031	10021	10012	10002	9992	9982	9972	9962	9951
....	4041	6062	10,103	10093	10083	10073	10064	10053	10043	10032	10022	10013	10003	9993	9983	9973	9963	9952
....	....	....	10,104	10094	10084	10074	10065	10054	10044	10033	10023	10014	10004	9994	9984	9974	9964	9953
2021	4042	6063	10,105	10095	10085	10075	10066	10055	10045	10034	10024	10015	10005	9995	9985	9975	9965	9954
....	....	....	10,106	10096	10086	10076	10067	10056	10046	10035	10025	10016	10006	9996	9986	9976	9966	9955
....	....	6064	10,107	10097	10087	10077	10068	10057	10047	10036	10026	10017	10007	9997	9987	9977	9967	9956
....	4043	6065	10,108	10098	10088	10078	10069	10058	10048	10037	10027	10018	10008	9998	9988	9978	9967	9957
....	....	....	10,109	10099	10089	10079	10070	10059	10049	10038	10028	10019	10009	9999	9989	9979	9968	9958
2022	4044	6066	10,110	10100	10090	10080	10071	10060	10050	10039	10029	10020	10010	10000	9990	9980	9969	9959
....	....	....	10,111	10101	10091	10081	10072	10061	10051	10040	10030	10021	10011	10001	9991	9981	9970	9960
....	....	6067	10,112	10102	10092	10082	10073	10062	10052	10041	10031	10022	10012	10002	9992	9982	9971	9961
....	4045	6068	10,113	10103	10093	10083	10074	10063	10053	10042	10032	10023	10013	10003	9993	9983	9972	9962
....	....	....	10,114	10104	10094	10084	10075	10064	10054	10043	10033	10024	10014	10004	9994	9984	9973	9963
2023	4046	6069	10,115	10105	10095	10085	10076	10065	10055	10044	10034	10025	10015	10005	9995	9985	9974	9964
....	....	....	10,116	10106	10096	10086	10077	10066	10056	10045	10035	10026	10016	10006	9996	9986	9975	9965
....	....	6070	10,117	10107	10097	10087	10078	10067	10057	10046	10036	10027	10017	10007	9997	9986	9976	9966
....	4047	6071	10,118	10108	10098	10088	10079	10068	10058	10047	10037	10028	10018	10008	9998	9987	9977	9967
....	....	....	10,119	10109	10099	10089	10080	10069	10059	10048	10038	10029	10019	10009	9999	9988	9978	9968
2024	4048	6072	10,120	10110	10100	10090	10081	10070	10060	10049	10039	10030	10020	10010	10000	9989	9979	9969
....	....	....	10,121	10111	10101	10091	10082	10071	10061	10050	10040	10031	10021	10011	10001	9990	9980	9970
....	....	6073	10,122	10112	10102	10092	10083	10072	10062	10051	10041	10032	10022	10012	10002	9991	9981	9971
....	4049	6074	10,123	10113	10103	10093	10084	10073	10063	10052	10042	10033	10023	10013	10003	9992	9982	9972
....	....	....	10,124	10114	10104	10094	10085	10074	10064	10053	10043	10034	10024	10014	10004	9993	9983	9973
2025	4050	6075	10,125	10115	10105	10095	10086	10075	10065	10054	10044	10035	10025	10015	10005	9994	9984	9974
....	....	....	10,126	10116	10106	10096	10087	10076	10066	10055	10045	10036	10026	10016	10006	9995	9985	9975
....	....	6076	10,127	10117	10107	10097	10088	10077	10067	10056	10046	10037	10027	10017	10006	9996	9986	9976
....	4051	6077	10,128	10118	10108	10098	10089	10078	10068	10057	10047	10038	10028	10018	10007	9997	9987	9977
....	....	....	10,129	10119	10109	10099	10089	10079	10069	10058	10048	10039	10029	10019	10008	9998	9988	9978
2026	4052	6078	10,130	10120	10110	10100	10090	10080	10070	10059	10049	10040	10030	10020	10009	9999	9989	9979

very doubtful if an accuracy closer than two degrees is ever attained on account of the various sources of error mentioned in a previous paragraph. In view of these conditions, it seems unnecessary to show the corrections for each degree F.

The accompanying tables give the volume corrections for temperature for petroleum products in tank car lots. Tables I, II, and III show the corrected volumes for tank car capacities from 8001 to 8030 gallons for various temperatures. Tables IV and V are for compartment, 6000-gallon, and 10,000-gallon cars. The corrected volumes for the 8000 and 10,000-gallon cars may be read direct from the tables but with the 2000, 4000, and 6000-gallon capacities it is necessary to also make use of the conversion

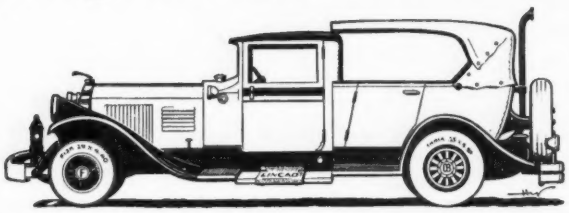
TABLE NO. VI. VOLUME CONVERSION TABLE (Gallons)

1900	3900	5900	9800	1900	3900	5900	9900	1900	3900	5900	9900	2000	4000	6000	10000	2000	4000	6000	10000
70	40	11	51	80	60	41	01	90	80	71	51	00	00	01	01	10	20	31	51
70	41	11	52	80	61	41	02	90	81	71	52	00	01	01	02	10	21	31	52
71	41	12	53	81	61	42	03	91	81	72	53	01	01	02	03	11	21	32	53
71	42	12	54	81	62	42	04	91	82	72	54	01	02	02	04	11	22	32	54
71	42	13	55	81	62	43	05	91	82	73	55	01	02	03	05	11	22	33	55
71	42	14	56	81	62	44	06	91	82	74	56	01	02	04	06	11	22	34	56
71	43	14	57	81	63	44	07	91	83	74	57	01	03	04	07	11	23	34	57
72	43	15	58	82	63	45	08	92	83	75	58	02	03	05	08	12	23	35	58
72	44	15	59	82	64	45	09	92	84	75	59	02	04	05	09	12	24	35	59
72	44	16	60	82	64	46	10	92	84	76	60	02	04	06	10	12	24	36	60
72	44	17	61	82	64	47	11	92	84	77	61	02	04	07	11	12	24	37	61
72	45	17	62	82	65	47	12	92	85	77	62	02	05	07	12	12	25	37	62
73	45	18	63	83	65	48	13	93	85	78	63	03	05	08	13	13	25	38	63
73	46	18	64	83	66	48	14	93	86	78	64	03	06	08	14	13	26	38	64
73	46	19	65	83	66	49	15	93	86	79	65	03	06	09	15	13	26	39	65
73	46	20	66	83	66	50	16	93	86	80	66	03	06	10	16	13	26	40	66
73	47	20	67	83	67	50	17	93	87	80	67	03	07	10	17	13	27	40	67
74	47	21	68	84	67	51	18	94	87	81	68	04	07	11	18	14	27	41	68
74	48	21	69	84	68	51	19	94	88	81	69	04	08	11	19	14	28	41	69
74	48	22	70	84	68	52	20	94	88	82	70	04	08	12	20	14	28	42	70
74	48	23	71	84	68	53	21	94	88	83	71	04	08	13	21	14	28	43	71
74	49	23	72	84	69	53	22	94	89	83	72	04	09	13	22	14	29	43	72
75	49	24	73	85	69	54	23	95	89	84	73	05	09	14	23	14	29	44	73
75	50	24	74	85	70	54	24	95	90	84	74	05	10	14	24	15	30	44	74
75	50	25	75	85	70	55	25	95	90	85	75	05	10	15	25	15	30	45	75
75	50	26	76	85	70	56	26	95	90	86	76	05	10	16	26	15	30	46	76
75	51	26	77	85	71	56	27	95	91	86	77	05	11	16	27	15	31	46	77
76	51	27	78	86	71	57	28	96	91	87	78	06	11	17	28	16	31	47	78
76	52	27	79	86	72	57	29	96	92	87	79	06	12	17	29	16	32	47	79
76	52	28	80	86	72	58	30	96	92	88	80	06	12	18	30	16	32	48	80
76	52	29	81	86	72	59	31	96	92	89	81	06	12	19	31	16	32	49	81
76	53	29	82	86	73	59	32	96	93	89	82	06	13	19	32	16	33	49	82
77	53	30	83	87	73	60	33	97	93	90	83	07	13	20	33	17	33	50	83
77	54	30	84	87	74	60	34	97	94	90	84	07	14	20	34	17	34	50	84
77	54	31	85	87	74	61	35	97	94	91	85	07	14	21	35	17	34	51	85
77	54	32	86	87	74	62	36	97	94	92	86	07	14	22	36	17	34	52	86
77	55	32	87	87	75	62	37	97	95	92	87	07	15	22	37	17	35	52	87
78	55	33	88	88	75	63	38	98	95	93	88	08	15	23	38	18	35	53	88
78	56	33	89	88	76	63	39	98	96	93	89	08	16	23	39	18	36	53	89
78	56	34	90	88	76	64	40	98	96	94	90	08	16	24	40	18	36	54	90
78	56	35	91	88	76	65	41	98	96	95	91	08	16	25	41	18	36	55	91
78	57	35	92	88	77	65	42	98	97	95	92	08	17	25	42	18	37	55	92
79	57	36	93	89	77	66	43	99	97	96	93	09	17	26	43	19	37	56	93
79	58	36	94	89	78	66	44	99	98	96	94	09	18	26	44	19	38	56	94
79	58	37	95	89	78	67	45	99	98	97	95	09	18	27	45	19	38	57	95
79	58	38	96	89	78	68	46	99	98	98	96	09	18	28	46	19	38	58	96
79	59	38	97	89	79	68	47	99	99	98	97	09	19	28	47	19	39	58	97
80	59	39	98	90	79	69	48	00	99	99	98	10	19	29	48	20	39	59	98
80	60	39	99	90	80	69	49	00	00	99	99	10	20	29	49	20	40	59	99
80	60	40	00	90	80	70	50	00	00	00	00	10	20	30	50	20	40	60	00

NOTE:—The heading of each column shows volumes in even hundreds. Other volumes are found by adding the volume given in the column to that shown in the heading.

Billions of Bubbles

Speaking of Composite Installations



HERE is one . . . every single part hand picked, the apple of its maker's eye. Yes, it can be done, and with most striking effect.

A gasoline plant, likewise *can* be built compositely—one type of absorber, another type of heat exchanger, another type of evaporator, and still another type of stabilizer. If variety is the aim, it may be had, and that abundantly.

But, if by chance, it is gasoline that is wanted, a GASOLINE PLANT had better be figured on, a UNIFIED plant.

The J. A. Campbell Company has for years specialized on unified plants. Each part of a unified plant is designed to perform a specific function, and bears as definite a relation to every other part as one organ of the human body bears to every other organ.

The Campbell organization has an uncontrollable hankering for making more and better gasoline, and maintains a corps of highly trained research men to that end.

Bulletin No. 7 explains the Campbell system. Write for your copy today.

J. A. CAMPBELL CO.
Natural Gas Engineers
CONSULTING DESIGNING CONSTRUCTING
PHONE-416-93
P.O. DRAWER 669
LONG BEACH, CAL.

STEARNS-ROGER MFG. CO., DENVER
MID-CONTINENT AGENCY

Originators of Oil-Froth Absorbers

BETHLEHEM
WAX PLANT EQUIPMENT

Filter Presses
Wax Distillate Chilling Machines
Wax Testing Presses
Wax Moulding Presses
Scale Wax Cooling Drums
Paraffine Wax Sweater Plants
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers, and other Oil Refinery Equipment
Oil Burning Systems

BETHLEHEM STEEL COMPANY, *General Offices: Bethlehem, Pa.*

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis.

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu.

chart. The examples given below will illustrate the use of the tables.

Example No. 1 (Even Temperatures)

Correct a volume of 8011 at 102° F. for an oil with an A.P.I. gravity of 34.9° or below.

Find 8011 under observed volume in Table I, then in the observed temperature column 102°F. and opposite 8011 read the corrected volume 7877.

8011 @ 102°F. = 7877 @ 60°.F.

Example No. 2 (Odd temperatures)

Correct a volume of 8022 at 99°.F. for an oil with an A.P.I. gravity of 34.9° or below.

As shown in example No. 1, look up the corrections given below using Table No. 1.

Therefore

8022 @ 98° F. equals 7901 @ 60° F.
8022 @ 100° F. equals 7894 @ 60° F.

Therefore

8022 @ 99° F. equals 7897.5 or 7898 @ 60° F.

When the corrected volume contains a fraction, which in every case will be ½, the fraction is called one gallon, as shown in the example.

Example No. 3 (See Table No. V)

Correct a volume of 10,115 at 72°F. for an oil with a gravity between 35.0° to 50.9° A.P.I.

Proceed as with Example No. 1.

10,115 @ 72° F. equals 10,055 @ 60° F.

Example No. 4.

Correct volumes of 2022, 4044, and 6066 at 70°F. for oils of 35.0° to 50.9° A.P.I.

From Table No. V.

2022 @ 70° F. is equivalent to a volume of 10,060 @ 60
4044 @ 70° F. is equivalent to a volume of 10,060 @ 60
6066 @ 70° F. is equivalent to a volume of 10,606 @ 60

From the conversion Table (Table VI)

10,060 is equivalent to 2012, 4024, and 6030,
therefore 2022 @ 70° F. equals 2012 @ 60° F.
4044 @ 70° F. equals 4024 @ 60
6066 @ 70° F. equals 6036 @ 60°F.

These corrected volumes may also be conveniently obtained without referring to the conversion table by multiplying the equivalent volume (10,060) by .2, .4, and .6 respectively obtaining as before the corrected volumes 2012, 4024 and 6036.

Standard Yearbook Published

CLEVELAND, June 21.—The American Standards Association has published its 1930 yearbook showing progress made in standardization of products and equipment for all industries in the past year. The book also lists all standards adopted to date and information regarding the organization, its committees and cooperating bodies.

Copies of the book are free and obtainable by writing the association at 29 West 39th St., New York.

New Refining Patents

Cracking and Cooking Heavy Oils. U. S. P. 1,757,843, May 6, 1930, Harry L. Pelzer and Eugene C. Herthel, Assignors to Sinclair Refining Co.

THE difficulties (chiefly of carbon deposition) incident to cracking of heavy oils in externally heated stills are overcome by a system of internal heating. A pressure still is used, in which the oil is heated by a current of highly superheated hydrocarbon gases. It is advantageous to use, as the gaseous heating medium, the fixed gas from the pressure still, this gas being recycled for repeated use.

To carry out the invention, the gas is heated considerably hotter than the required cracking temperature, and forced into the pressure still so as to provide both heating and positive agitation of the oil. Uncondensed gas escaping from the still is returned to the superheating coil for re-use.

The process is particularly suited to cracking of heavy oils or residues, e. g., certain Mexican crudes, and residues from externally heated stills, which are difficult to crack or in which excessive coking occurs in ordinary cracking practice. The operation can be carried on until a dry coke is produced, so that the pressure still can be used as a coke still, and the utmost production of light from heavy fractions is effected.

What Is Claimed

In cracking heavy oils, or further cracking of residues from cracking stills, internally heating the body of oil by introducing under the liquid surface a superheated hydrocarbon gas, maintaining the liquid body of oil under pressure, and continuing the operation to formation of a dry coke-like residue.

* * *

Vacuum Distillation. U. S. P. 1,758,590, May 13, 1930, Robert E. Wilson. Assignor to Standard Oil Co. of Indiana.

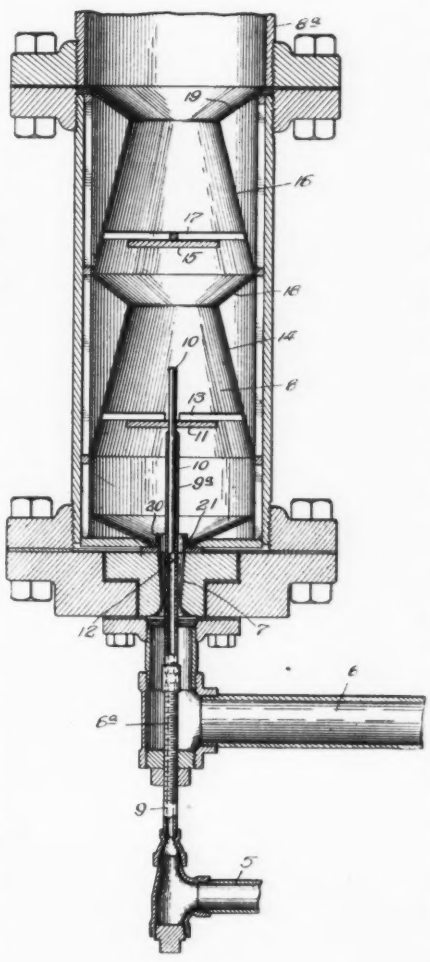
THIS invention relates to improvements in methods and apparatus used in the vacuum distillation process specified by Watts et al., in U. S. Patent Application Serial No. 20,414, (patent not yet issued).

Oil, preferably from the last of a battery of fire and steam reducing stills, is fed through a conduit 5, shown in accompanying sketch, and feed pipe 9 to an expanding nozzle, within which the feed pipe 9 has openings 12. Superheated steam, at 1 atmosphere pressure and 1000 to 1200 degrees F., is passed through the pipe 6 and chamber 6a into the expanding nozzle 7, where it expands into chamber 8 at a pressure of 25 to 100 millimeters of mercury. The steam current finely atomizes the hot oil, the openings 12 being so placed that the steam at point of contact is about 700 degrees F. and the oil at about 680-690 degrees F.

The finely atomized oil makes contact, in the chamber 8, with the baffle 11 and the frustro-conical deflector 14, then with the baffle 15 and frustro-conical deflector 16. Oil draining back to the nozzle drips through openings 21, where it is caught and returned to the atomizing nozzle. The final conduit 8a is so proportioned as to permit attainment of thermal equilibrium in continuous operation.

What Is Claimed

In vacuum distillation of hydrocarbon oils, expanding superheated steam into a chamber at reduced pressure, supplying oil to the partially expanded steam before entering the chamber, impinging the vapor and oil against baffles, and causing the vapor and oil to move through a final conduit in steady flow at a rate of at least 300 feet per second.



Condensing Oil Vapors. U. S. P. 1,757,108, May 6, 1930, John E. Bell, Assignor (through Lola R. Bell, Executrix) to Sinclair Refining Co.

IN THE distillation of hydrocarbon oils, efficiency of condensation is hampered by the difficulty of effecting heat transfer between a cooling medium and a complex mixture of liquid, vapors and fixed gases. An improved apparatus has been designed for this purpose. It operates on the principle of pre-cooling, or even partly condensing, the vapors from the still by vaporizing a relatively small volume of water, effecting further condensation by transfer of sensible heat from the vapors to a relatively large volume of water, and cooling the condensate after separation from the fixed gases.

One embodiment of this idea, suitable for obtaining the maximum economy in operation, utilizes water from the second cooling operation for the first or pre-cooling step. This permits, as compared with previous practice, a lower final temperature of the condensed distillate with a given amount of cooling water, or a saving in cooling water for a given final temperature. If used in conjunction with the inventor's improved process (described in his U. S. Patent Application, Serial No. 746,471), the saving may amount to 50 per cent or more of the original amount of cooling water.

Apparatus is described and illustrated, which makes the invention applicable to condensing the vapors and cooling the distillates from pressure stills. For such use, reduction of the still pressure may take place between still and condenser, between condenser and cooler, or beyond the cooler.

What Is Claimed

In an apparatus for condensing and cooling oil vapors and distillates, a condenser and an evaporative cooler, with connections including a separator arranged to discharge liquid condensate to the cooler and to separate fixed gases, and means to supply cooling water to the condenser and from the condenser to the evaporative cooler.

* * *

Sulfur Dioxide Recovery. U. S. P. 1,758,595, May 13, 1930, Giuseppe Cattaneo, Assignor to Allgemeine Gesellschaft fur Chemische Industrie m. b. H.

AN IMPROVEMENT in heat economy has been effected in the recovery of liquid sulfur dioxide used in refining mineral oils. The principle of high pressure evaporation is

AMERICAN PETROLEUM REFINING

by

H. S. Bell

HAVE you seen the new edition of AMERICAN PETROLEUM REFINING just out? Every detail of refinery practice is brought down-to-date in this one volume.

Among the outstanding recent developments, Mr. Bell goes thoroughly into vapor phase cracking, production of high compression gasoline, the development of modern pipe stills, use of Diesel engines in oil pumping, chemical cracking with aluminum chloride, new methods of treating lubricating oils and light oils, removing of amorphous waxes to allow manufacture of low cold test lubricants, distillation, fractionation, methods of testing, plant design, storage of oil, volume measurements, etc.

In AMERICAN PETROLEUM REFINING you have a complete analysis of refinery operation, engineering, plant management and equipment design of the modern oil refinery.

If you are a refinery superintendent, engineer, chemist, construction foreman or ambitious refinery employee—you will find this new volume by H. S. Bell, consulting engineer, of inestimable value in your work.

Get your copy of AMERICAN PETROLEUM REFINING today!

550 pages Illustrated $6 postpaid

NATIONAL PETROLEUM NEWS
Penton Bldg., Cleveland, Ohio

Send me the new edition of AMERICAN PETROLEUM REFINING by H. S. Bell. Enclosed is $6.

NAME .....

Street .....

City-State.....

used in the evaporation of the sulfur dioxide, and the heat of the vaporized sulfur dioxide is recovered as part of the process of condensation and liquefaction.

The oil containing sulfur dioxide to be recovered is heated under pressure to vaporize the sulfur dioxide; this vapor is condensed in heat exchanging relation to a second evaporator, containing oil and sulfur dioxide to be vaporized. Thus one evaporator is pre-heated by the recoverable heat of the vaporized sulfur dioxide. Outside heat, e.g. from exhaust steam, is supplied for maintenance of the cycle of operations.

What Is Claimed

In recovering liquid sulfur dioxide from oils treated therewith, heating the oil under pressure and condensing the sulfur dioxide vapor in heat exchanging relation with another body of oil, which is thereby heated while the sulfur dioxide vapor is liquefied.

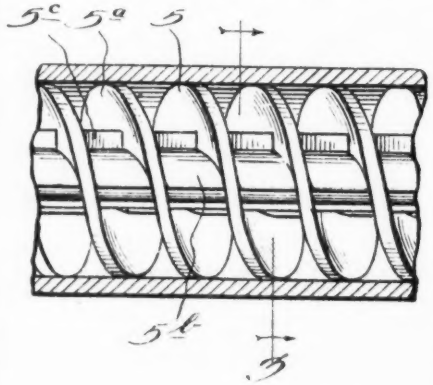
* * *

Refining Pressure Distillates, U. S. P. 1,756,026, April 29, 1930, Lyman C. Huff, Assignor to Universal Oil Products Co.

THE object of this invention is to provide an efficient apparatus for continuous treatment of hydrocarbon oils, especially pressure distillates, by thorough agitation and mixing with treating agents and separation of the impurities in the form of a sludge. A typical procedure, for which the apparatus is adapted, is to subject the oil, in successive treating zones, to an acid treatment, a water wash, a sweetening treatment with alkali, and a final water wash.

The treating units for this process are cylindrical casings, of which the drawing shows a section. Each casing contains a spiral baffle element 5, consisting of a continuous spiral blade 5a running around a core 5b, and fitted at intervals on the periphery of the core with obstruction lugs 5c. These spiral baffles may be made of ceramic ware, or of tinned or leaded steel.

The oil and the liquid with which it is to be treated or washed are pumped through the casing, under sufficient pressure to cause active agitation and thorough mixing as the mixture is forced at high velocity through the spiral path. The obstruction lugs enhance the agitation effect, so that intimate contact is obtained between the oil and the treating agent. From the casing the mixture passes into a settling tank, where the settling of sludge takes place.



This apparatus is adaptable to any system of liquid treatment of oils, as well as to the particular acid and alkali treatment which is cited as an example. Aside from the intimate contact which it provides, the apparatus has the further advantage of being small and compact, so that the space requirement for treating a large volume of oil is relatively very small.

What Is Claimed

A process for refining oil by forcing commingled streams of oil and a treating agent under pressure, and at high velocity, in a spiral path through an agitating vessel in which intimate contact is effected, and passing the mixture into an enlarged zone in which the oil and treating agent separate and are separately removable.

* * *

Catalytic Cracking. U. S. P. 1,756,018, April 29, 1930, Carbon P. Dubbs, Assignor to Universal Oil Products Co.

THE use of aluminum chloride as a catalyst in the cracking of heavy oils has a cost disadvantage both in the first cost of the aluminum chloride and in the fact that its recovery is either inefficient or expensive. While others have done much work along the line of lowering the first cost, this invention is directed toward lower operating costs in the use of aluminum chloride.

To this end, a system has been provided in which the aluminum chloride is maintained in active circulation, so that a more or less complete automatic recovery is constantly in progress. Raw oil, suitably mixed with the reagent in a mixer, is fed through a dephlegmator into a heating coil and thence into an expansion chamber, where both the oil and the reagent are vaporized. The mixed vapors then enter a dephlegmator, where the heavy oil and the aluminum chloride vapor condense and are returned to the heating coil.

This system keeps the reagent, in large measure, separate from carbon deposits, and returns the used reagent continuously to the system for re-use. After starting, raw oil is fed into the apparatus, instead of a mixture of oil and reagent. The process is adaptable to working at high pressure or at atmospheric pressure.

What Is Claimed

A process of converting oil, by passing a mixture of oil and aluminum chloride through a heating zone to an expansion chamber, removing vapors of oil and aluminum chloride, condensing the vapors and returning the aluminum chloride and the oil condensate directly to the heating zone.

Economics of Storing Light Products In Pressure Containers

By C. L. Day*

THE basic reason for the use of storage in the distribution and marketing of any product is a fluctuating demand. Of the approximate 400,000,000 barrels of gasoline refined in the United States yearly, over 60 per cent is consumed during six months.

This fluctuation in the gasoline demand can be taken care of in two ways. First, by providing refineries of sufficient capacity to supply the peak demand. During the off-peak season the refineries cannot be operated at full capacity and this increases the cost of gasoline because of increased investment, depreciation, and overhead per unit of production. Second, by providing storage of finished product from slack to peak season. This increases the cost of gasoline by the interest on investment in gasoline and storage equipment, insurance, and evaporation while in storage.

The natural tendency of the petroleum industry is to combine the above methods in such a way as to secure the lowest total cost per gallon—that is, to store just enough so that the fluctuation in price would equal the cost of storage. We would therefore expect to find the sum of the cost of storage equipment, interest, depreciation, insurance and evaporation somewhere near the difference between the price of gasoline in the spring and fall.

Figure 1 is a chart showing the Chicago Refinery Prices of 58 to 60 degrees U. S. Motor Gasoline during the past five years. This chart shows that the average for May, June, July and August is 0.75 cent per gallon higher than for January, February, March, April and May.

Assuming a refiner stored 80.000 barrels of gasoline during the first four months of the year and disposed of it during the following four months, the relative costs and savings would be as follows:

Additional income due to ¾c per gallon higher price	$25,200
	$25,200
Interest and depreciation on tank and property (10%)	$3,000
Interest and gasoline investment (6%) for 7 mo.	9,000
Insurance	1,500
Evaporation loss (gas tight steel tanks)	6,500
Operating and overhead charges	1,000
	$20,000

The above figures show a net profit of about $5200 as a return for the risk involved.

The important point to be gathered from such a set of figures as the above is that the refiner and consequently the consumer is compelled to pay the evaporation and other storage costs occasioned by fluctuations in demand regardless of whether the gasoline is actually stored or not. If the refineries are operated at a constant rate without sufficient storage, the gasoline produced during the slack season must be sold at a sacrifice in price probably exceeding the cost of storage.

If the refineries are not operated at a constant rate, the increased overhead and investment charges undoubtedly exceed either of the above. It will be evident that the only way the evaporation cost can be reduced or eliminated is to actually store the excess production in containers which do not permit evaporation. For similar conditions the economics of storage would be about as follows using non-evaporation containers.

Additional income due to ¾c per gallon higher price	$25,200
	$25,200
Interest and depreciation tank and property (10%)	$3,200
Interest on gasoline investment (6%)	9,000
Insurance	1,500
Evaporation losses	500
Operating and overhead charges	1,000
	$15,200

These figures show almost twice the net earning through the use of non-evaporation storage equipment. It should be noted that the difference between the annual cost of non-evaporation tanks and standard tanks is insignificant compared to the other figures involved.

Figure 3 shows the total and annual cost of various types of storage per barrel and per gallon. The two upper curves are for Horton-spheroids of 15 pounds per square inch and 10 pounds per square inch

*Designing engineer, Chicago Bridge and Iron Works.

TABLE I

Showing Pressures in Closed Containers Storing Natural Gasoline

Character of gasoline—

Temperature °F.	Vapor Pressure Lbs. per Sq. In.
40°	7.2
50°	8.7
60°	10.8
70°	13.1
75°	14.4
80°	16.0
90°	19.1
100°	22.6
120°	31.6

Vapor temperature taken at top vapor space.

Liquid temperature taken at bottom liquid.

Container painted aluminum.

Date 1929	Gage Pressure Lbs. per Sq. In. High	Low	Atmospheric Temp. °F. High	Low	Liquid Temp. °F. High	Low	Vapor Temp. °F. High	Low
July 15	9.0	1.0	72	65	80	68	104	84
July 16	10.0	1.5	78	64	84	70	114	80
July 17	11.0	4.0	85	64	88	64	108	78
July 18	8.0	0	76	60	80	74	98	88
July 19	6.0	—1.0	66	58	68	60	88	68
July 20	6.0	0	68	56	64	55	82	72
July 22	11.0	3.0	88	64	90	64	104	80
July 23	11.0	2.0	92	68	90	70	108	78
July 24	9.5	3.0	90	67	90	66	98	78
July 25	10.0	3.0	88	70	88	70	102	76
July 26	8.0	3.0	90	74	84	70	96	70
July 27	10.5	4.5	92	74	80	76	94	82
July 29	9.5	1.0	85	66	88	64	106	75
July 30	11.0	1.5	88	70	94	72	108	82
July 31	6.0	3.0	90	70	92	72	104	84
Aug. 5	3.0	0	72	58	66	56	78	66
Aug. 6	4.0	—0.5	72	66	70	62	84	62
Aug. 7	6.0	—1.0	73	65	84	60	98	72
Aug. 8	8.0	1.0	84	63	76	62	95	70
Aug. 9	5.0	1.0	82	72	78	65	85	66
Aug. 10	9.0	1.0	88	72	78	68	94	72
Aug. 16	7.0	1.0	78	56	74	60	86	78
Aug. 17	8.0	2.0	84	60	70	60	88	80
Aug. 18	9.0	3.0	73	63	....	....	....	....
Aug. 19	7.0	0	68	62	72	60	90	68
Aug. 20	9.0	1.0	74	58	68	58	96	68
Aug. 21	9.0	2.5	86	62	82	64	100	70
Aug. 22	11.0	3.5	94	72	74	70	88	70
Aug. 23	7.5	0	80	68	80	60	102	68
Aug. 24	10.0	1.5	80	66	84	66	102	72
Aug. 26	10.0	3.0	84	64	68	62	86	70
Aug. 27	6.0	1.0	68	64	68	56	88	68
Aug. 28	5.0	0.5	66	64	80	54	84	55
Aug. 29	6.0	0	70	60	78	58	94	64
Aug. 30	6.0	0.5	82	62	78	68	92	72

PIPE BENDS
WELDED HEADERS
CAST STEEL FITTINGS
COMPLETE PIPING

LIMBERT PIPING

We manufacture ordinary requirements or design and manufacture special piping for any refinery condition. A third of a century of piping leadership.

GEO. B. LIMBERT CO.
570 Fulton Street, Chicago, Ill.
St. Louis Kansas City, Mo.
Detroit, Mich.

955

recommendations made by this office for the elimination of fire and explosion hazards do not appear in any Insurance Rating Schedule.

We will insure the Right Risk at the Right Rate.

NATIONAL
Petroleum Mutual
Fire Insurance Company
437 Chestnut Street
Philadelphia, Pa.
No stockholders to receive profits

gage pressure. Containers of this pressure are suitable for the storage of casing head gasoline. While the cost of the spheroid for this pressure is considerably in excess of ordinary storage, its use is more than justified by the greater price fluctuation of casing head gasoline.

Figure 4 shows the price of Grade A natural gasoline during the year 1929. It will be noted that the average price for July to December inclusive is 4 cents per gallon higher than the average of January to June, while the total annual cost of the Hortonspheroid pressure storage is only .33 cent per gallon.

The design of storage equipment preventing evaporation of oil depends, of course, upon the physical and chemical properties of the oil to be stored, and principally upon the vapor pressure at the temperature attained. There are two classes of such equipment, one for products whose vapor pressure does not exceed atmospheric or does not boil, and the other for products whose vapor pressure exceeds atmospheric or boils.

Boiling and evaporation are terms used loosely and to avoid confusion their meaning in this particular paper will be defined. Boiling means the change from liquid to gas throughout the body of the liquid, that is, below as well as at the surface. Evaporation means the change from liquid to gas at the surface of the liquid only. Obviously boiling occurs when the vapor pressure exceeds whatever pressure exists on the surface of the liquid, but, peculiar as it may sound, the pressure of a foreign gas applied to the surface will stop boiling, but will not stop evaporation.

For this reason, any volatile liquid

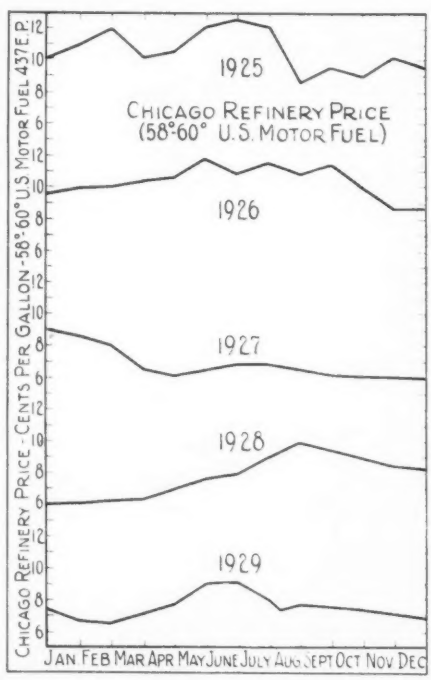

CHICAGO REFINERY PRICE - CENTS PER GALLON - 58°-60° U.S. MOTOR FUEL 437 E.P.
1925
CHICAGO REFINERY PRICE
(58°60° U.S. MOTOR FUEL)
1926
1927
1928
1929
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Fig. 1—Chicago Refinery Prices of 58-60° U. S. Motor Fuel, 1925-29

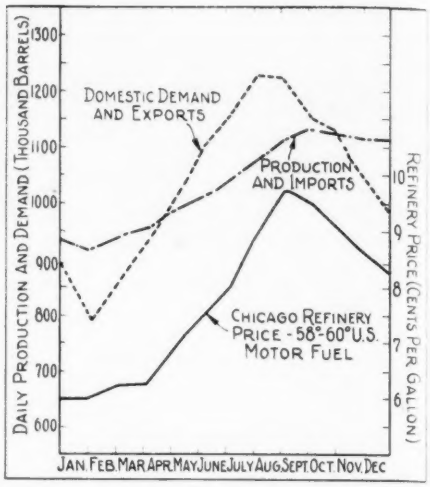

DAILY PRODUCTION AND DEMAND (THOUSAND BARRELS)
REFINERY PRICE (CENTS PER GALLON)
DOMESTIC DEMAND AND EXPORTS
PRODUCTION AND IMPORTS
CHICAGO REFINERY PRICE - 58°-60° U.S. MOTOR FUEL
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Fig. 2—Gasoline Demand and Oil Production Curves, 1928

will evaporate until the space above it contains a certain quantity or density of its own vapor. The supposed theory for this is, that when the vapor reaches a certain density, molecules are flying from vapor to liquid as fast as they are flying from liquid to vapor.

Be that as it may, it is a fact that the same quantity of liquid will evaporate regardless of the pressure of any foreign gas present. That is, the same amount of liquid would evaporate in a closed container if the space above the liquid were vacuum or contained a foreign gas at 1000 pounds per square inch, disregarding time. That is the reason there will be evaporation into a space containing air at atmospheric pressure, even though the vapor pressure of the oil is less than atmospheric.

By far the greater portion of evaporation on crude oils and ordinary gasolines are what is known as "Breathing Losses." During the night when the temperature is lowest the vapor reaches a state of equilibrium. During the day as the temperature increases the air expands and a greater density of vapor is required on account of the increased vapor pressure.

Ordinary storage tanks will not stand any gas pressure, and consequently a considerable volume of air and vapor mixture is forced out. As the temperature decreases, air is drawn in and the same cycle repeated next day. This results in a continual pumping out of air and vapor mixture and pumping in of air each time the temperature changes.

In order to determine the amount of liquid which evaporates it is necessary to invoke a certain theory known as the "Law of Partial Pressures."

A volatile liquid that has evaporated is measured or described the same as any gas, and in order to properly describe an amount of vapor or gas, the volume, pressure and the temperature must be given. The volume of vapor that forms in a closed container is

liquid. The pressure it forms is called the vapor pressure, which may be only a part of the internal pressure. Thus, when the vapor pressure of an oil is given, it indicates that in a closed container an amount of vapor will form whose volume is the volume of the space above the liquid and whose pressure is the vapor pressure.

This affects the total internal pressure the same as the admixture of any other gas. For example, suppose oil with a vapor pressure of 5 pounds per square inch were placed in a container with air at 1000 pounds per square inch absolute and whose space above the oil was 100 cubic feet; an amount of vapor would form whose volume was 100 cubic feet and whose pressure was 5 pounds per square inch. This amount of vapor added to the air at 1000 pounds per square inch would raise the pressure to 1005 pounds per square inch.

The only practical value of all this theory is to approximate the expansion or increase in pressure to be expected as a result of evaporation from temperature change. There are any number of formulae which could be injected, but there are two general ones which are sufficient for purposes of this paper.

First take the case where the pressure is constant and there is an expansion in volume, caused by an increase in temperature of the contents. At the beginning there is a volume of air and vapor mixture called the INITIAL VOLUME at an INITIAL TEMPERATURE. At the initial temperature the oil has an INITIAL VAPOR PRESSURE. The temperature is raised to the FINAL VOLUME, and the vapor pressure increased to the FINAL VAPOR PRESSURE. Assume that the total pressure on the air and vapor mixture remains the same always, say at atmospheric. The

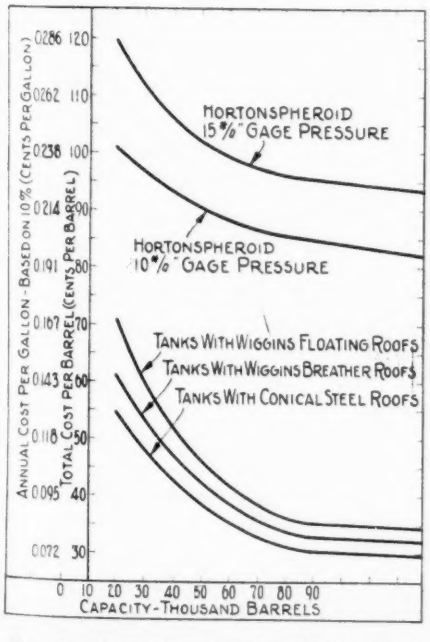


Fig. 3—Annual and Total Costs, Various Types of Storage Equipment

Notice the oil passage. There are no corners or reversals of flow direction. Throughout the fitting there is one continuous unbroken channel.

That is why, with the Ohiolock Frictionless, throughput is increased from 15% to 20%—giving greater efficiency and more production from your units.

The Better Bend

Ohiolock Frictionless Return Bends bring to the refiner three outstanding advantages—the value of which are easily measured.

At tube cleaning time, the quick acting, labor saving Ohiolock Closure demonstrates its worth by *hours saved.*

The Frictionless free flow feature contributes by increasing throughput 15% to 20%.

. . . and long satisfactory service is assured by Hi-Steel—the proven cast electric steel for resisting the erosive and corrosive action of hot oil.

When it's time to replace return bends or add new units—specify Ohiolock Frictionless, *the better bend.*

The Ohio Steel Foundry Co.
Springfield, Ohio

SALES OFFICES
Chicago ..... 1313 Peoples Gas Bldg.
Detroit ..... 304 Blvd. Temple Bldg.
Houston ..... 410 Union Nat'l Bank
Los Angeles ..... 2600 S. Alameda St

Plants in Springfield and Lima

SALES OFFICES
Philadelphia ..... 22 So. 15th St.
Cleveland ..... 1510 Terminal Tower Bldg.
New York ..... 75 West St.
Tulsa ..... 422 Wright Bldg.

FAIRLITE

Hybnickel

HEAT AND ACID RESISTING CASTINGS

Several hundred tons of Hybnickel are now in use in oil refinery stills and superheaters.

One of Our Main Products Is—
Heat-resisting supports for Oil Stills.

VICTOR HYBINETTE
c/o The Pusey and Jones Corporation
Wilmington, Delaware

VAPOR PHASE REFINING
WILL
Increase your gasoline yields,
Improve your gasoline quality,
and
Reduce your refining costs.

THE GRAY PROCESSES CORPORATION
961-975 Frelinghuysen Avenue
NEWARK, NEW JERSEY

desired information is the FINAL VOLUME, everything else being known.

$$\text{Final Volume} = [\text{Initial Volume}] \times \left[\frac{\text{Atmospheric—Initial Vapor Press.}}{\text{Atmospheric—Final Vapor Press.}} \times \frac{\text{Final Absolute Temp.}}{\text{Initial Absolute Temp.}}\right]$$

Absolute temperature is Fahrenheit temperature plus 460°. All pressures are absolute.

Second, take the case where the volume remains the same and it is desired to find what the final pressure will be for a given increase in temperature:

$$\text{Final Pressure} = [\text{Final Vapor Pressure}] + \left[[\text{Initial Total Pressure—Initial Vapor Pressure}] \times \left[\frac{\text{Initial Absolute Temp.}}{\text{Final Absolute Temp.}}\right]\right]$$

The trouble with such formulae as the ones above is that there are many disturbing factors which make them only very approximate. For instance, the increase in temperature of the vapor space is not constant throughout the depth nor is it the same as the oil surface. The study of these temperatures is a field by itself, but if 60° F. is taken as the daily change fairly accurate results will be obtained. Figure 5 gives the vapor pressures of various petroleum products for various temperatures.

An application of this theory to structural designs for the purpose of

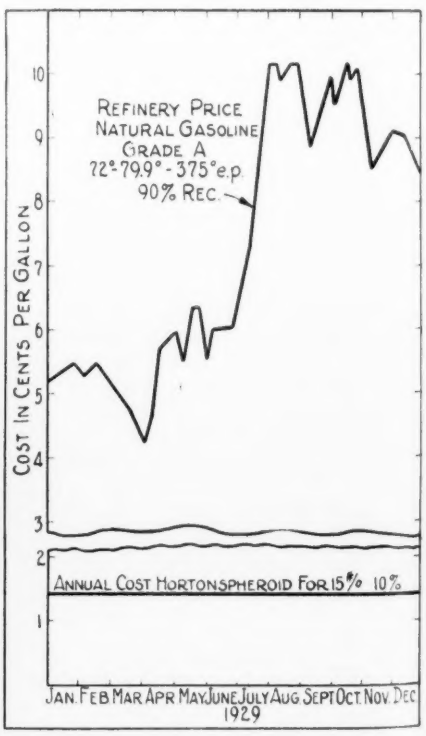


Fig. 4—Refinery Price and Storage Cost of Natural Gasoline, 1929

preventing evaporation divides the problem again into the two classes referred to previously. Evaporation can be prevented with products which do not boil by one or a combination of the following devices:

1. Elimination of the vapor space as with a floating roof. By placing the floating roof on the oil surface full advantage is taken of the atmospheric pressure and there will be no loss at all over that portion covered unless a product is stored that is so light its vapor pressure exceeds atmospheric and boils.

By referring to the chart on vapor pressure it will be seen that this method is satisfactory for crude oils and ordinary gasoline in most climates. The floating roof method has the added advantage of preventing any possibility of fire. It will be noted further that the oil surface may be moved as often as desired without causing displacement losses. This latter is an important point and will be referred to later.

2. The expanded air and vapor caused by increase in temperature may be held by providing a vapor space with a variable volume. This type of container is known as a "Breather Roof."

3. Evaporation losses may be overcome by designing a container that will withstand the pressure caused by the temperature change.

4. If it were possible to eliminate all temperature change, there would, of course, be no losses from storing a product which did not boil.

When the oil stored is of such nature that it boils under the temperature reached, the requirements of conservation equipment may be met by the following:

1. Designing a container capable of withstanding sufficient pressure to raise the boiling point the required amount. The actual amount of pressure required varies with different products and is found on Figure 6.

2. Storing the vapors boiled off until the temperature decreases as with balloons, gas holders or floater breather roofs. There is some question concerning the efficiency of this method since under conditions of actual boiling the vapor has different characteristic than the liquid and may not all condense when the temperature drops.

3. Lowering the temperature of the oil.

During the summer of 1929, an experiment was performed at the Chicago plant to determine in a rough, general way what pressures might be expected from the storage of natural gasoline. Some commercial natural was placed in a container about 3 feet diameter by 20 feet long, and the maximum and minimum pressures and temperatures attained were recorded. The results of this investigation are shown in Table I.

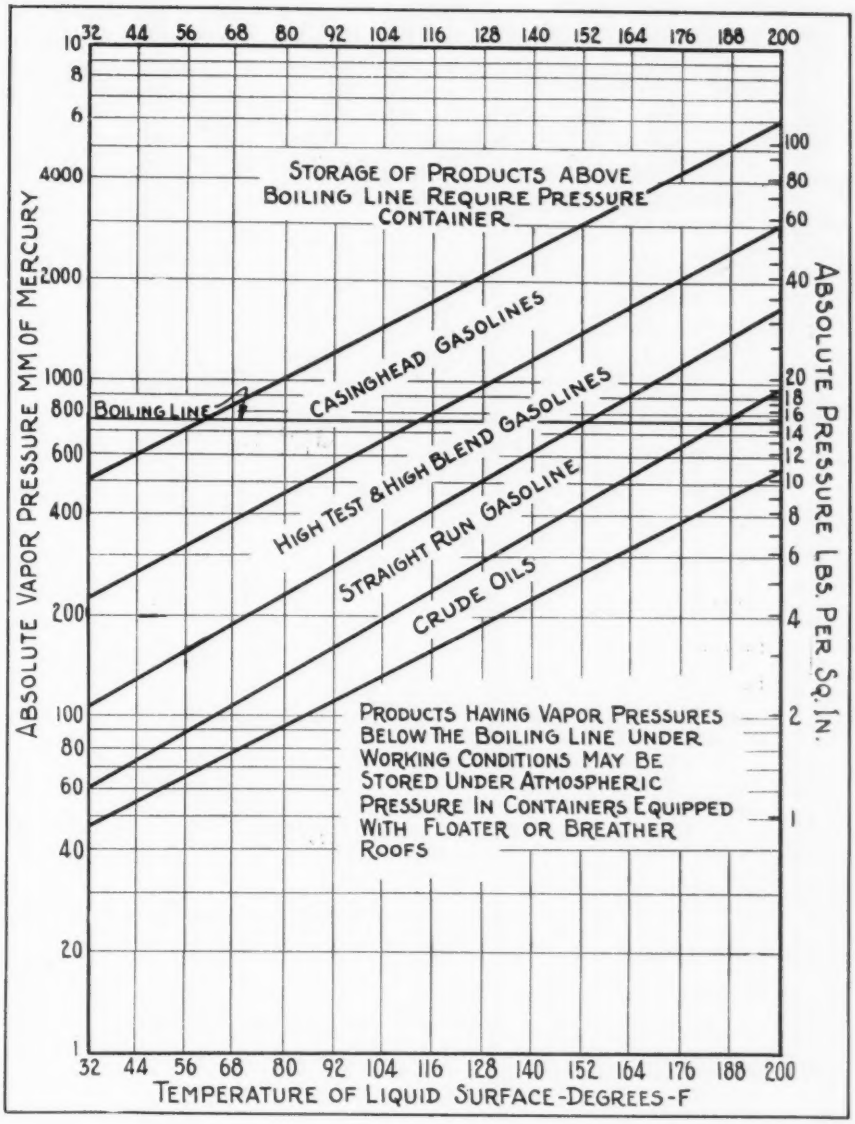

ABSOLUTE VAPOR PRESSURE MM OF MERCURY
ABSOLUTE PRESSURE LBS. PER SQ. IN.
TEMPERATURE OF LIQUID SURFACE-DEGREES-F
STORAGE OF PRODUCTS ABOVE BOILING LINE REQUIRE PRESSURE CONTAINER
BOILING LINE
CASINGHEAD GASOLINES
HIGH TEST & HIGH BLEND GASOLINES
STRAIGHT RUN GASOLINE
CRUDE OILS
PRODUCTS HAVING VAPOR PRESSURES BELOW THE BOILING LINE UNDER WORKING CONDITIONS MAY BE STORED UNDER ATMOSPHERIC PRESSURE IN CONTAINERS EQUIPPED WITH FLOATER OR BREATHER ROOFS

Fig. 5—Vapor Pressure Chart for Different Fuels

New Equipment

Tube-Turns, Inc., Shelby St. and Goss Ave., Louisville, Ky., will begin additions to its factory there July 1, according to Walter H. Girdler, president of Girdler Corp., which operates the Tube-Turns company. A 60 per cent enlargement is necessary due to a 271 per cent increase in business the first five months of 1930 compared with the corresponding period of 1929.

* * *

Wilson Welder & Metals Co., Inc., Hoboken, N. J., has combined into booklet form various bulletins describing Wilson welding machines and arc welding wire. It has also put out several bulletins, one on welding cables; another on the history of electric arc-welding; one on the process of welding copper, brass, monel, bronze, nickel, aluminum and machinable cast iron welds, and one each on the economy of arc welding and good welding essentials.

* * *

Black, Sivalls & Bryson, Inc., Bartlesville, Okla., manufacturer of welded vessels and equipment, will build a factory at Oklahoma City, its subsidiary, the American Tank Co., Oklahoma City, says. No rivets of any kind will be used in this building. It will be welded throughout.

The American oil and gas separator, welded oil field tanks, bulk and filling station tanks, refinery equipment, piping, and similar welded equipment, will be made at the new plant.

New equipment to be installed will include a large squaring shear to cut through ¾-inch thick flange steel, large bending rolls, flanging, punching, planing, boring and drilling machines. There will also be automatic welding machinery to supplant hand welding.

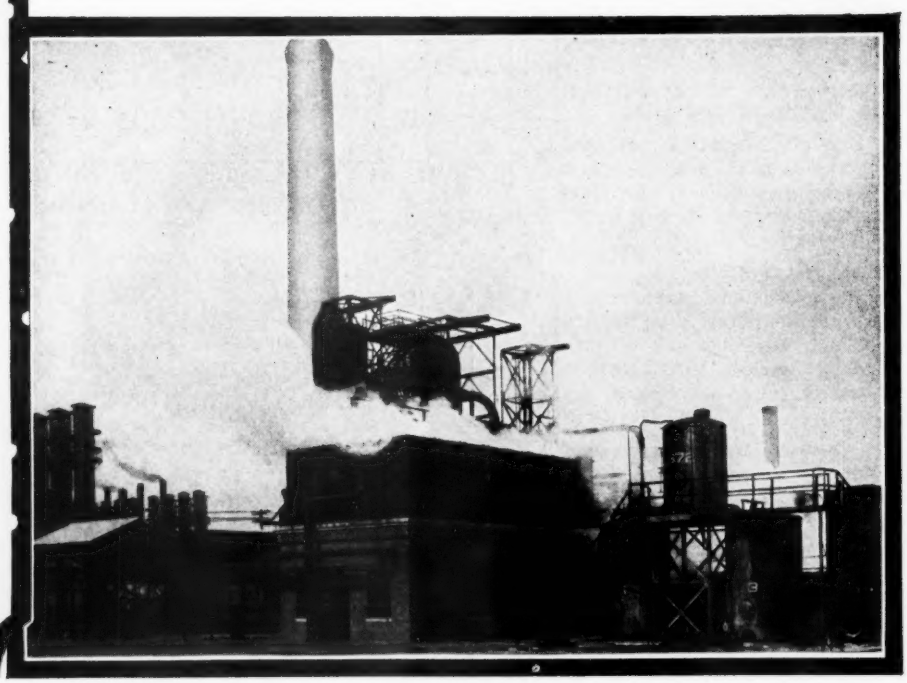
PROGRESS

The following Companies are some of those who have purchased BADGER Equipment:

The Texas Company
Tide Water Oil Co.
Sinclair Refining Co.
Anglo-Persian Oil Co. Ltd.
Emlenton Refining Co.
Shell Petroleum Corp.
Phillips Petroleum Co.
Standard Oil Co. of N. J.
Empire Oil & Refining Co.
Texas Pacific Coal & Oil Co.
Associated Oil Co.
Pennzoil Company
Independent Refining Co.
Gulf Refining Co.
Tidal Refining Co.
Continental Oil Co.
Anglo-Mexican Petroleum Co. Ltd.
Cities Service Refining Co.
Barnsdall Corporation
Beacon Oil Company
Pierce Petroleum Corp.
Magnolia Petroleum Co. of Texas
New Orleans Refining Co.
Skelly Oil Co.
General Petroleum Corp.
Shell Oil Company
Freedom Oil Works Co.
Vacuum Oil Company
Richfield Oil Co.
Humble Oil & Refining Co.

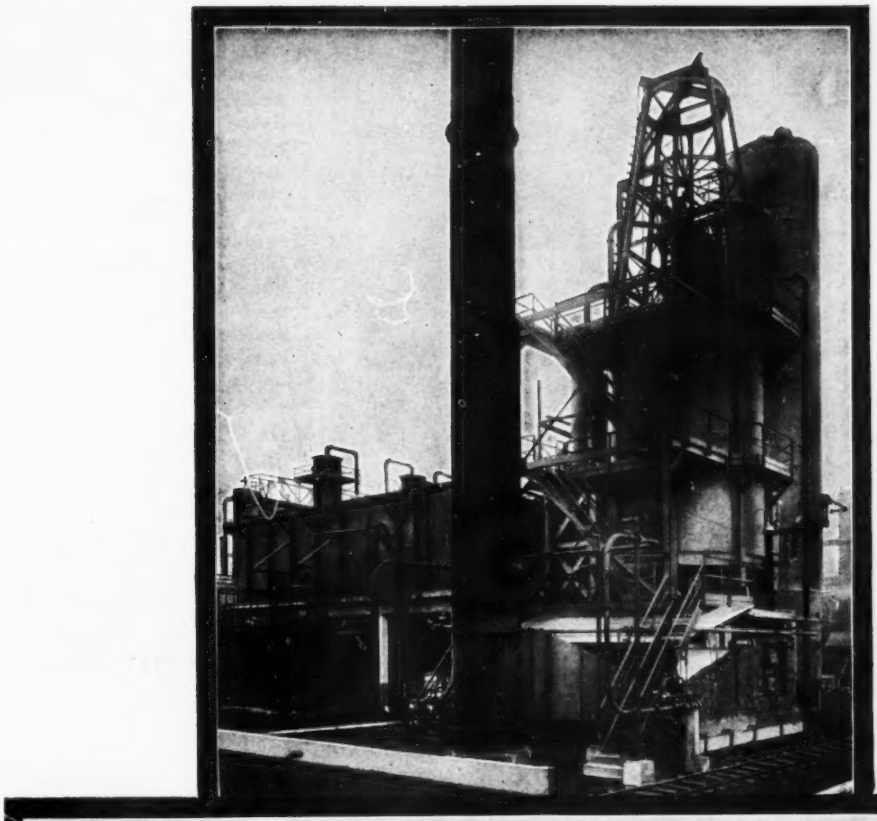
E. B. Badger & Sons Company has been and is the leader in the development and successful commercial application of most of the present day types of complete refining units.

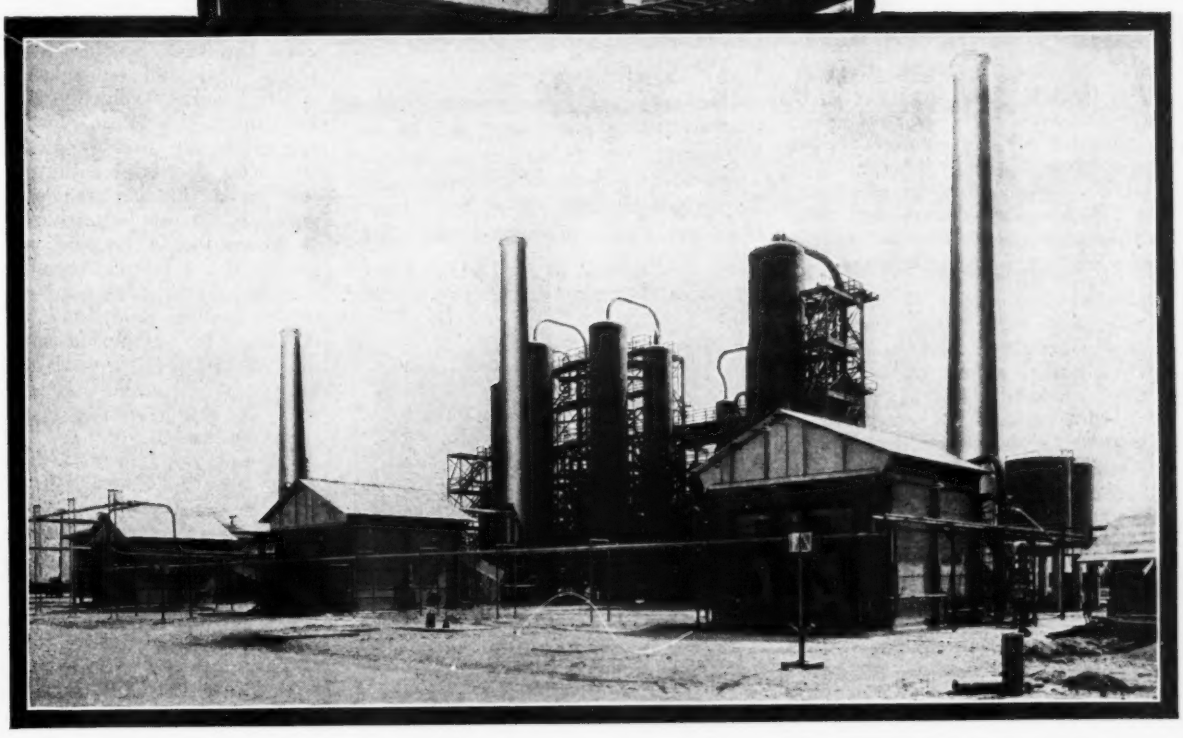
Continuous improvement is essential to meet changing conditions and requirements. We are carrying on constant and extensive research and experimental work.



E. B. BADGER &

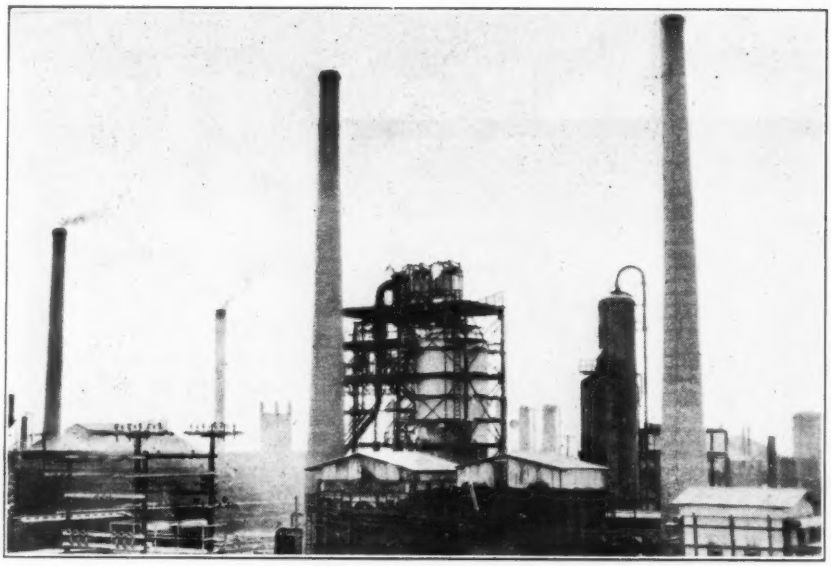
NEW YORK LOS ANGELES





SONS COMPANY

TULSA HOUSTON BOSTON



Partial view of the 17,000-barrel Champlin refinery at Enid, Okla.

Champlin Plant Generates Own Electricity Cheaply

ENID, June 26

GENERATING all the electric current needed at its Enid, Okla., refinery has been found successful in all ways by the Champlin Refining Co. The electric plant produces some 35,000 kilowatts per 24-hour day, which supplies all the current needed by the 17,000 barrel refinery. The cost to the company is in the neighborhood of 0.6 cent per kilowatt-hour, considerably under the figure at which a like amount could be purchased.

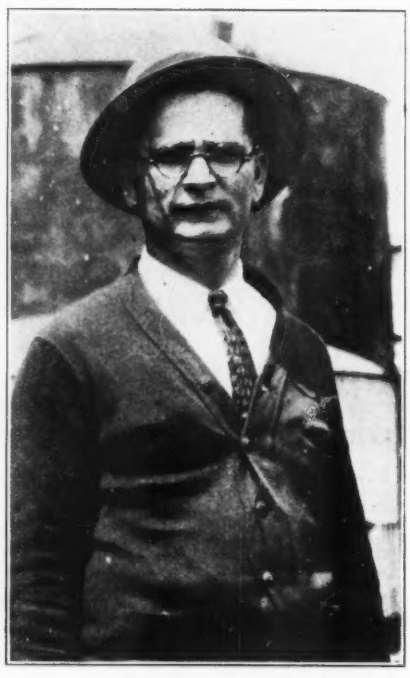
The generating plant is equipped with one 1125-horsepower Ingersoll-Rand Diesel engine, direct connected to a 750-kilowatt generator, and with two 560-horsepower Fairbanks-Morse Diesels, each direct connected to a 750-kilowatt generator. In addition to the equipment kept in regular use there is a considerable amount of standby equipment, for use in case of emergency. The standby generators are driven by a 125-horsepower, a 300-horsepower, and a 500-horsepower Chuse engine, respectively.

In addition to lighting the plant, the current is used to run the electric motors by which practically all of the pumps are actuated.

Electricity is by no means all that the Champlin plant is turning out, however. The 17,000-barrel plant is charging considerably under capacity, but, according to Superintendent E. J. Slater, things are rocking along in satisfactory manner at the plant. About 12,000 barrels per day of crude oil is being processed, the crude coming from the Tonkawa, Garber and Seminole areas.

Tentative plans are also being made to obtain some of the Oklahoma City crude, by running a line from this field to the Champlin's main line north of the Seminole district.

Improvements in the lubricating oil manufacturing equipment, and a new 500-horsepower boiler being installed constitute the bulk of the work other than routine going on at the Champlin plant at the present time.



E. J. Slater, superintendent of the Champlin refinery

New Type Roof Is Non-Sinkable

In a letter to Col. Geo. A. Burrell, author of the series of articles on oil refining recently published in NATIONAL PETROLEUM NEWS, John H. Wiggins, inventor of the floating roof for storage tanks, the breather roof and other well known oil storage equipment, and head of John H. Wiggins Co., Inc., of Tulsa, has given some valuable additional information on the subject of evaporation losses and their prevention. Mr. Wiggins' letter follows:

I HAVE read with a great deal of interest Article No. 22 entitled "Evaporation Losses from Tanks," in the May 7th issue of the NATIONAL PETROLEUM NEWS.

There are several features in connection with the floating roof and the breather roof which constitute later and more complete information on these structures than written by you.

As concerns the floating roof. To my knowledge, we have not had any trouble with snow and sleet on the floating roof tanks. The only reason for ever placing a secondary roof over the tank would be for shading in tropical and sub-tropical climates where very volatile liquids are handled. The actual loss from boiling with the pan type floating roof with 100°F. initial boiling point gasoline in a climate like that of New Orleans, is not exceptionally great. It seems like a lot and perhaps may sound like a lot; however, by test on a 55,000 barrel tank containing 100°F. initial boiling point gasoline at New Orleans, for a period of about ten months, the total annual loss was only about 350 barrels. A gastite cone roof, equipped with pressure vacuum relief valves, would have lost between 1,500 and 2,000 barrels in a year. I do no cite the above evaporation test on a floating roof as being the best that a floating roof can do. For a storage tank like the above, I would recommend a breather roof.

The evaporation losses on floating roofs are really less if the tanks are working more or less constantly than if they are used for standing storage most of the time. This is readily understood since a tank which is being worked has the oil constantly stirred which keeps down the surface temperature.

For handling the very volatile gasolines, we have developed a new type of floating roof which combines the features of the floating roof and the breather roof. We started to call this a breather floating roof but on account of the confusion, changed the name to pontoon floating roof. This float-

ADVERTISING PAGES REMOVED

ing roof traps any vapors resulting from boiling and holds them during the hot period of the day so that they do not escape at all. It happens also that this roof is absolutely non-sinkable from any cause and it is possible to install this type of roof without any kind of drainage system whatsoever.

We have very satisfactorily worked out the drainage system on the floating roof now and have practically no trouble with this feature at all any more.

As concerns the breather roof. I notice that you state that the gastite steel, low pressure cone roof with half ounce pressure and vacuum relief valves is the cheapest form of light oil storage when the total evaporation is considered. The first cost of such a roof is somewhat lower than the breather roof. You probably do not realize how little more the breather roof costs than the cone roof. When it is considered that the breather roof costs only $1200.00 to $1400.00 extra, it becomes evident that the breather roof is by far the cheapest form of evaporation roof storage tank to use. There is no question as to whether the breather roof will stop practically all of the evaporation loss in a tank with as much as 2 or 3′ outage. I notice that you are thinking the expansibility of the breather roof allows only 33 per cent expansion of the vapor space with 1-½′ outage. With this 1-½′ outage, the expansibility of the vapor space is 100 per cent. You see, the breather roof does two things. It decreases the original amount of vapor space by about 14,000 cu. ft. as compared to a low pitch cone roof on a 117′ diameter tank. This feature, in addition to its 11,000 to 12,000 cu. ft. expansibility, gives the 100 per cent expansion above mentioned.

It is interesting to note that we have had about one hundred 80's handling the corrosive West Texas Oils for a number of years. At least fifty of the tanks with these roofs have stored this corrosive oil for a period of two and a half years with no apparent deterioration in the roof plates. A cone roof would have been gone in from one year to two years under similar circumstances. It happens that about five months ago, we were in Wink, Tex. and observed a number of breather roofs and a cone roof which had been built at about the same time as the breathers. There were holes in the cone roof that a man could jump through. It is evident that the roof had been gone for some time.

Speaking of corrosion, it also happens that the floating roof is self-preserving by floating in this corrosive oil, and large numbers of floating roofs are being sold on account of their corrosion resistance.

We can convert existing cone roofs to breather roofs at a comparatively

"I can handle the situation"

FOR the man who can answer this question satisfactorily, an Eastern advertising agency has a good job—major responsibility in contact-handling of a large appropriation.

To successfully accomplish, the man we want should have:

1. A knowledge of conditions in the lubricating oil field,—filling stations, chains, etc.
2. A knowledge of sales and sales work.
3. Advertising experience — some copywriting ability.
4. Force without undue aggressiveness; ability to take the lead in a big situation and intelligently and soundly guide the thinking of trained minds in the oil business.

Remuneration will be in proportion to the necessities of the case, which call for the best in an exceptionally good man.

Write us giving your experience, salary expected, but above all write us on those qualifications which, in your opinion, make you the man for the job.

Address M. H., Room 1124, 342 Madison Ave., New York City.

FOR 40 CENTS A DAY

the OILGRAM gives you accurate market information you couldn't gather yourself for less than

$40 A DAY

The OILGRAM'S staff at each of the four publication points—Tulsa, Chicago, Cleveland, New York—make *daily* personal calls, and use long distance phone and telegraph services freely in gathering the market information in each day's issue of the OILGRAM.

The OILGRAM brings you the gist of this expensive market check every day at a low cost—$65 for 6 months, or $100 a year, payable in advance—less than 40 cents a day.

Keep yourself posted *daily* on prices and important market developments through the OILGRAM.

Send your order or wire your nearest mailing point, and the OILGRAM will be started to you immediately. Make check payable to The W. C. Platt Company or Platt's Oilgram.

TULSA—904 World Building
CLEVELAND—1213 West Third Street
CHICAGO—35 East Wacker Drive
NEW YORK—342 Madison Avenue

CELINOL LINING

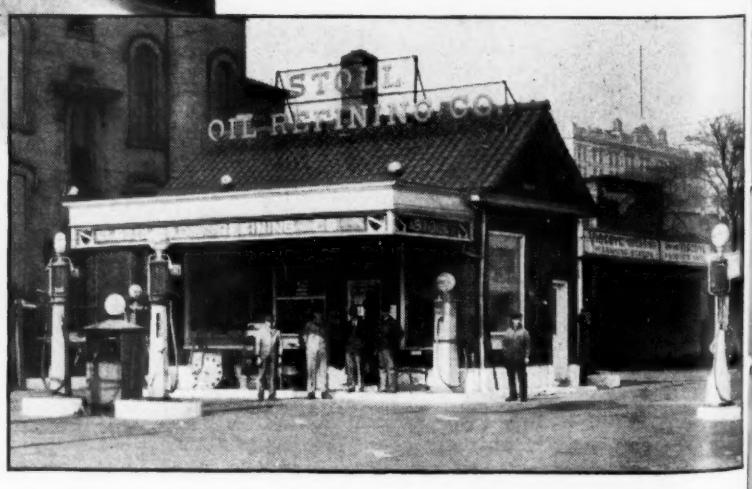
on wet hose

Tests show its unusual resistance to deterioration from gasoline . .

CELINOL LINING is another Goodrich "miracle in rubber." You can prove it to your own satisfaction at any time, simply by sending for a sample and making the test shown on the opposite page.

The exceptional resistance to deterioration shown by this lining is particularly important in wet hose installations. Under test, Celinol has shown 50% less deterioration in tensile strength than ordinary rubber.

Hose replacement gives you trouble and causes you extra expense. This tested quality of Celinol lining provides your best insurance against these annoyances. Each length of Goodrich Gasoline Hose sold is accompanied by a full guarantee.



Successful service stations have learned the importance of having first-class equipment in good running order. More and more these stations are specifying Celinol-lined hose.

Photo shows gasoline station of the Stoll Oil Refining Company, Louisville, Kentucky. It is in progressive stations like this that Goodrich Gasoline Hose has won an overwhelming acceptance.

ADVERTISING PAGES REMOVED

low cost. This cost is especially low if the cone roofs are of the low pitch type.

It is my opinion that the breather roof has by far the greatest possibilities of general use of any structure that I have been connected with.

You may be interested to know that I am at present working on what I call my Automatic Vapor Saving System in contrast to a Vapor Recovery System. My idea in connection with evaporation loss has always been to make the tank do the work of stopping its own loss and in this Vapor Saving System, I believe that I can arrive at this result. Of course, the Vapor Saving System is only partially competitive with the floating roof and breather roof systems which I now have.

Installs Steel Runways on Tank Cars

Staff Special
TULSA, June 26

SKELLY Oil Co. is gradually replacing the wooden runways on its tank cars with steel. Approximately 50 per cent more expensive initially than the wooden type, the steel runways figure to pay for themselves in reduced upkeep, and by an increased safety factor.

The first car to be so equipped was completed in March, 1928. Since then one other car, used for the transportation of Skelgas, has been so equipped. Performance of the decking of these cars has been so satisfactory that the practice is being extended to all the company's tank cars.

The first runway to be applied was manufactured by the Irving Iron Works, at Long Island City, N. Y. It consists of a steel grating, the outside bars being ⅛-inch steel, the bars being ¾-inch wide. The inside network members were ⅛-inch by ½-inch, and the supporting cross members ¼-inch by 1-inch. An additional outside frame member was ¼-inch by 2½-inch.

The runways consisted of three sections, riveted to the supporting arms on the car. Because all cars are not exactly alike the runways had to be "tailor made" to fit each car at the factory.

Another type of steel decking has been receiving considerable attention. This type, called the Electroforge, has longitudinal members of 3/16 by 1¾-inch steel. The cross members are electrically welded into the longitudinal members. With this type of decking it is possible to cut and fit the runways at the car shop. Both types are used extensively in refineries, natural gasoline plants and compressor stations in the Mid-Continent.

The runways are applied in sections, three to a side. The dome runway and end platform each consists of a single piece. The steel is riveted to the supporting arms of the tank car, and therein lies one of its chief charms, according to F. W. McGrath, tank car shop foreman for Skelly Oil Co. The bolts with which the wooden runways are applied constitute one of the principal hazards to safety, and cause a large portion of the upkeep expense of the wooden decking.

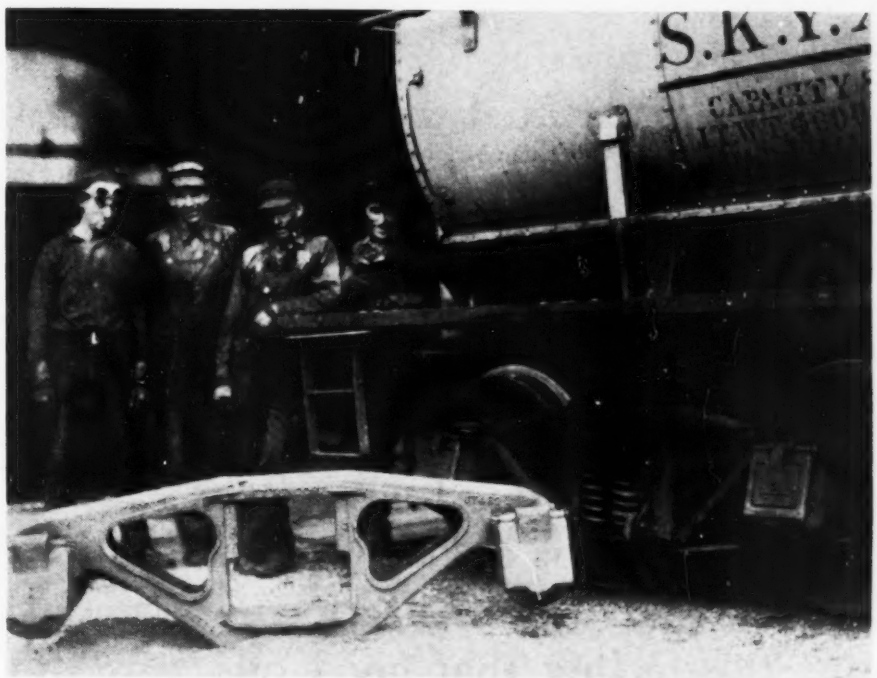
The wooden runways, due to the difficulty of getting lumber of sufficient length, have to be spliced, and the splices bolted. When the lumber shrinks the nuts are frequently stripped from the bolts, a condition which quickly constitutes a safety hazard, as well as a repair expense item.

The steel decking costs in the neighborhood of $95.00, put on, against some $60.00 for the wooden type. The average life of the wooden decking is about three years, during which time there is an almost continuous renewal expense for nuts, bolts, etc. The steel decking is expected to last almost indefinitely.

Skelly Oil Co. is also installing a number of the new cast steel side frames. These truck frames have the journal boxes cast integral with the frame, eliminating the use of 17 wearing parts. These new sides, by using wrought iron wear plates practically eliminate wear on the brake hanger holders.

These frames are built under the American Railway Association specifications, and have come into general use of late. It will be decided at the

F. W. McGrath, shop superintendent, holding samples of the two types of steel decking which have been tried out on Skelly Oil Co. tank cars



The cast steel truck side frames used to replace the older bolted types. These side frames have the journal boxes cast integral with the frame

ARE YOUR OILS

Why do your customers buy modern fuels? Why are the 1925 fuels inadequate today?—RAPID PROGRESS IN MOTOR DESIGN!

What makes modern motors so entirely different? They're high speed, high compression power plants, capable of greater speeds, increased horse power—PROVIDED—they use fuel and lubricants EQUALLY modern in strength and vitality.

Gasoline refiners saw it—and developed more powerful, high compression, hotter burning fuels. But have motor oils kept pace? Is there dissatisfaction—the feeling that good oils of a few years ago are not as good today?

It's not the oils—they're still good oils—but the rapid strides in motor improvements have progressed, outgrown them.

Today's motors DEMAND a better—tougher—stronger—more durable and heat resisting oil, precisely as they demanded—and got—the modern, powerful, hotter burning fuel.

Is there a fit running mate for this new gasoline—an oil capable of meeting these new conditions? EMPHATICALLY, YES—GALENA PROCESSED MOTOR OIL.

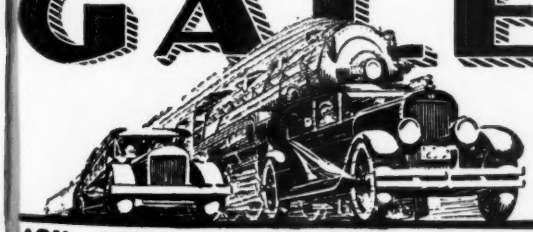
IN STEP WITH YOUR FUELS?

That is no idle claim. Consider these facts:

Galena Processed STARTS where other good oils leave off . . . 100% Pure Pennsylvania—PLUS. Galena Processed made every famous world's record for speed, distance and tonnage on America's railroads . . . and NOW brings YOUR customers the same safety high speed lubrication . . . reinforced with PLUMBOLEUM in perfect solution . . . like salt in water. Absolutely pure . . . highly refined and filtered . . . no substance in suspension . . . A SUPER OIL . . . STRENGTHENED, TOUGHENED . . . like the open hearth process converts iron into steel. Just as manganese, chrome and other alloys reinforce the finest steel . . . so does PLUMBOLEUM by the Galena Process, give Galena that factor of safety to stand up . . . wear . . . and lubricate at high speeds and high temperatures . . . long after ordinary good oils have broken down. Galena offers you not only THE SUPER OIL demanded for today's motoring needs—but in addition, an extensive, specific advertising campaign PLUS A LARGER MARGIN OF PROFIT THAN YOU MAKE ON ANY OTHER QUALITY, ADVERTISED BRAND.

Are you in business to build soundly—for the present and future? Then write for complete information.

GALENA



PROCESSED OILS

ASK ANY RAILROAD MAN - *HE* KNOWS *GALENA*

From Franklin, Penna.

GALENA OIL CORPORATION

Sales Headquarters: Willoughby Tower Building
8 South Michigan Avenue .. Chicago, Illinois

Pioneers in Safety and Service Since 1869

Return the Coupon

GALENA
OIL CORP'N,
Willoughby Tower
8 S. Michigan Ave.,
Chicago, Illinois

Gentlemen: Yes, I am interested in GALENA Oil. Without obligation, give me full details.

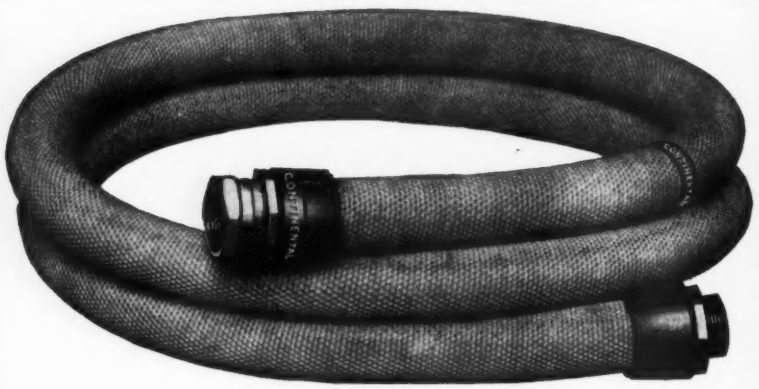
Name .....

Firm .....

Address .....

City ..... *State* 7-2-30

Continental
Gasoline Hose



The Reasons Why We Invite Comparison

The flexible wall of metal-rubber-fabric and the heavy, cast-brass, non-leak couplings that insure a steady, full flow of gasoline from pump to car.

You can always depend on *Continental Gasoline Hose* being up to *underwriters' standards.*

Get in Touch With Our Nearest Branch

ATLANTA, GA.	419 Ponce de Leon Ave.
BALTIMORE, MD.	112 W. Pratt St.
BOSTON, MASS.	200 Congress St.
BUFFALO, N. Y.	885 Niagara St.
CHICAGO, ILL.	27 West Illinois St.
CLEVELAND, O.	203 Perry Payne Bldg.
DAYTON, O.	122 So. St. Clair St.
DETROIT, MICH.	5423 12th St.
MILWAUKEE, WIS.	3223 McKinley Blvd.
NEW YORK, N. Y.	152 Chambers St.
PHILADELPHIA, PA.	313-319 New St.
PITTSBURGH, PA.	300 Penn Ave.
ST. LOUIS, MO.	221-223 No. 3rd St.
TOLEDO, O.	415 Michigan St.

Continental Rubber Works,
Erie, Pa. U.S.A.

Post Office Drawer O

Chas. C. Kerner, 152 Chambers St., New York, Exclusive Foreign Rep.

Association meeting at Atlantic City in June whether or not these frames are to be made mandatory, both for new equipment, and as replacements on older cars. It is expected that this step will be taken, the ruling worded in such fashion that the next six years will be the allotted time for the replacements.

New Patents

Prepared by R. E. Burnham, patent and trade-mark attorney, 1343 H Street, N.W., Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

June 3, 1930

MISCELLANEOUS

Drainage apparatus for floating roofs—Otterbein A. Bailey, Chicago, Ill., assignor to Chicago Bridge & Iron Co., same place. Filed Dec. 10, 1927. No. 1,761,700.

Gas-trap—Thorvald A. M. Petersen, Los Angeles, Cal., assignor to Union Tank & Pipe Co., same place. Filed Oct. 5, 1925. No. 1,761,743.

Process for the production of sulpho-acids from hydrocarbon oils—Grigori Petroff, Moscow, Russia, and Peter Shestakoff, Paris, France, assignors to First National Bank, Cincinnati, Ohio. Filed Dec. 30, 1925. No. 1,761,744.

Process for treating gasoline and the product thereof—August P. Bjerregaard, Okmulgee, Okla., assignor to Doherty Research Co., New York, N. Y. Filed July 30, 1926. No. 1,761,810.

June 10, 1930

REFINING

Art of cracking hydrocarbon oils—Edward W. Isom, Scarsdale, N. Y., assignor to Sinclair Refining Co., New York, N. Y. Filed April 20, 1927. No. 1,762,229.

Cracking still and process—Milton J. Trumble Los Angeles, Cal. Filed July 24, 1924. No. 1,762,433.

Oxidizing paraffins, waxes, and the like—Fritz Hofmann, Breslau, Germany, assignor to I. G. Farbenindustrie, Frankfort-on-the-Main, Germany. Filed March 14, 1928. No. 1,762,688.

Method of revivifying Fullers's earth and other filtering clays—Hugh Lowrey, Alton, Ill., assignor to Standard Oil Co. of Indiana. Filed May 25, 1927. No. 1,763,167.

Apparatus for treating hydrocarbon oils—Joseph B. Weaver, Chicago, Ill., assignor to Gyro Process Co. Filed June 15, 1925. No. 1,763,608.

Process of treating hydrocarbon oils—Joseph B. Weaver and Rodolphe Stahl, Toledo, Ohio, and Cary R. Wagner, Chicago, Ill., assignors to Gydro Process Co. Filed June 6, 1927. No. 1,763,609.

PRODUCTION

Oil-saver and packing-head—William G. Bradford, Long Beach, Cal. Filed Dec. 19, 1928. No. 1,762,211.

Roller-cutter mounting—Guy E. Behnke, Houston, Tex., assignor to Reed Roller Bit Co., same place. Filed March 28, 1927. No. 1,762,570.

Liner-puller—Arch P. Ridenour, Los Angeles, Cal. Filed April 22, 1929. No. 1,762,796.

Pneumatic flow means for deep wells—John A. Wolfe, Tulsa, Okla. Filed March 4, 1927. No. 1,763,030.

Two-post three-shaft draw works—Edwin W. Goeser, Los Angeles, Cal. Filed June 27, 1928. No. 1,763,511.

MISCELLANEOUS

Method of transporting petroleum products—Henry A. Scharpenberg, Bakersfield, Cal. Filed Jan. 24, 1927. No. 1,762,423.

Process of obtaining nicotine carbolates from crude shale oil—David T. Day, Washington, D. C. Filed Nov. 12, 1924. No. 1,762,471.

Filling attachment for tanks—Daniel S. Pfahl, Cleveland, Ohio. Filed July 24, 1926. No. 1,762,524.

Liquid-dispensing system—Carl H. Ehlers, Penfield, Pa., assignor to Atlantic Refining Co., Philadelphia, Pa. Filed Nov. 6, 1925. No. 1,762,965.

Gasoline-dispensing device—John J. Tokheim, Cedar Rapids, Iowa. Filed Aug. 10, 1927. No. 1,763,544.

ADVERTISING PAGES REMOVED

They Sell the Second Oil Fill

While Making The First

Harry L. Pommier

by

R. H. Thomas

Author of "Merchandising of Petroleum Products"

Howard L. Holcomb

"HOW is the service station business in this town?" I asked several operators in San Bernardino, a California town of a little over 37,000 population now, although boasting less than 19,000 in 1920.

"Fine," "Very good," "Not so good," "Tough pickin'," "Fair," "Rotten," were some of the answers. Very few said, "Fine" or "Very good."

"What's the trouble?" I continued. "There must be a good deal of wealth here. The city seems to be growing rapidly and is located in a fertile valley with fine adjacent resorts in the mountains close by. It's a great railroad center employing hundreds of men in the shops. The old Santa Fe trail, the main highway leading to the Pass from Los Angeles and which extends east for hundreds of miles, goes right through your city.

"It is the home of the National Orange Show and should be one of the greatest business towns on the coast for service stations because of the great number of tourists. How do you account for poor business?"

"Too many service stations," was the inevitable reply.

"How many?" I asked.

"Seventy-two; one for every 500, approximately; and I refer to population, not cars." This figure proved to be correct.

Many of those who informed me that business was bad had sites and stations as favorably located and as attractive as others who seemed to be doing a large volume of business and who answered most enthusiastically that business was good. I decided to ascertain the cause for a "business feast" in one place while a "business famine" raged among others. So I called on a score or more of businessmen in various districts of the city. I frankly asked these men WHERE and WHY they patronize certain stations.

When I got into the north-east section of the city, I noticed that a great number of businessmen traded at one station. That station was owned and operated by Pommier & Holcomb, and located on the northwest corner of Baseline and Arrowhead.

"Why do you trade at that particular station? I asked one gentleman.

"Well," he replied, "they are a dandy pair of young fellows—well liked by every one—have the best kind of help—and you can't beat their service."

"What is it, a super service station where they do everything that's to be done to a car, such as washing, painting, mechanical work, etc?" was my next query.

"Oh, no, it's a gasoline station. They sell gasoline, tires and tubes, accessories, oil and grease cars, and things like that. I guess they do sell a little candy and cigars and tobacco; but they are dandy fellows and they do a whale of a business."

Next I called on a man who operated nine trucks. "Where do you buy your gasoline?" I inquiried. "From Pommier & Holcomb," came the unhesitating reply. "Why?" I asked. "Well, I don't know. Why do you ask?"

"Because I am looking for good material for a story to be published in an eastern oil magazine," I truthfully informed him.

"Oh! Then here's the answer: The men at that service station always serve you for the next fill, not the one you're gettin' (Do you get me?) and you're sure to go back."

Not far distant was a competitive service station, so I walked over there and asked which station in that particular part of the city enjoyed the largest volume of business. The man in charge frankly told me that Pommier & Holcomb, without any doubt, did the largest gallonage. "To what do you attribute their gallonage?" I asked. He asnswered:

"They are very well liked and very well known. I guess they run their legs off whenever there is a drive on for money to help the Red Cross, Chamber of Commerce, or anything like that. You see, there are two of them, and they work it some way to always keep one man on the job at the station—an' most of the time they are both there—but when they are needed to help out on a drive, such as I just mentioned, the folks around here know they can bank on one of them for needed assistance. Then, each belongs to a luncheon club. I think Pommier belongs to the 20-30 Club, and Holcomb belongs to the Rotary Club. They also belong to some lodges, and so on, and I suppose that, perhaps, helps some, too."

I then called on another merchant, who in response to my inquiries, handed out some real food for thought. He said: "I patronize these two young men because they are an asset to the city, particularly this section of it. One of the boys is a REAL Rotarian. The other one belongs to another live club here. They are both clean-cut and use their influence—and cash, in keeping with financial ability and good judgment for the promotion of those things that are worth while. They are imbued with community spirit and are hard workers."

After a little thought, he continued: "You know attitude and action mean something these days. When we are trying to put something over, whether it be a drive for public charities, a new Y, or anything else required in a growing and going community, these men are always willing to do their part with cash and effort. When we write to some of these out of town folks for money, or try to get some from them through their local representatives, too often there is no money forthcoming, only excuses as to why they have not the legal or moral right to use the stockholders' money for such local purposes. It seems that they have the right to spend the stockholders' money in the community for advertising, and for sites and stores and stations which will get trade and take the money out of the community from those who are compelled to carry their portion of the community load in addition to their own. When they are asked to put something back, some of them are deaf and dumb and blind. Of course, this thing won't last forever, as the citizens of the various communities are awakened to the situation. These two chaps are not that way. We are proud of them and we naturally trade with folks we like and who are worthy of all the business success that can come to them."

Following this interview I went directly to Pommier & Holcomb's station where the following information was garnered:

Six years ago, H. L. Pommier and H. L. Holcomb, became associated as partners in the service station business on the northwest corner of Baseline and Arrowhead streets. This location is one mile from the heart of the business center of the city; but it is in a fine growing district assuring regular patronage and ideal for tourist traffic, as several excellent trails pass the location. When they began operations, the lot occupied was 60 by 70 feet, with a 12 by 12 building on it. There were two pumps on an island in front, and their "line" was gasoline and motor oil.

Today, these partners occupy the same location; but, no one would recognize the place. The site has grown from 60′ x 70′ to 82′ x 142′ and the building has grown from a 12′ x 12′ shanty to a 22′ x 80′ structure of inviting appearance finished in white stucco; and a magnificant canopy extending 36 feet over the double drives in front of the office. Ingress and egress are spacious. You can drive into the station as conviently as a duck can land on a smooth pond. No abrupt incline in entering nor jolt when you drive out.

The long way of the site runs east and west. The building faces south and sets back against the north line with sufficient vacant space left at the east end to allow for a fine little lawn which is kept up nicely, giving an attractive atmosphere to the place as one approaches from the east or the north. It also adds materially to the attractiveness of the window display in the east end of the 22′ x 22′ office room. A neat white picket fence graces the north line from either end of the building to the end of the property. Two islands have been installed. The inside drive is about 12 feet wide. The drive between the inside island and the outer one is about 20 feet. A cash register is located on the inside island between the two pumps in use. The outside island supports three pumps.

Just inside the office door, 21 lubricating outfits are grouped in three separate lots where access to the oil can be had with the least possible delay. The outfits are arranged in batteries of five, seven and nine, requiring minimum space. These tanks, or lubricating outfits, are placed in the southwest corner of the service station room—five directly beneath the window against the south wall, seven abutt the west wall, and an island of nine is grouped together just in front of the others with ample passage way for accessibility.

In this room is also carried a goodly supply of Fisk and Hood tires and tubes neatly arranged against the north wall where no one can fail to see them when they walk into the station. On the shelves above the lubricating tanks on the west side of the room are the accessories: liquid solder for radiators; polish and cleaning fluid; Alemite chassis oil for automatic systems; replacement oil filters; hydraulic brake fluid for hydraulic

Five brands of gasoline and 11 *brands of motor oil are handled at this super service station of Pommier & Holcomb at San Bernardino, Cal. Tires, tubes, accessories and oil specialties, candies, cigars and tobacco are sold here. Oiling, greasing, and tire repair are among the services offered*

For
"pulling power"
at
point-of-sale
use

CINCINNATI GLOBES

The attention compelling designs of Cincinnati Globes stop motorists . . . There's no chance of overlooking the clean cut lettering, the lasting color effects, the super-brilliance of Cincinnati Globes . . . The master workmanship of these sturdy, durable, good looking globes, their trade "pulling power", and their economical cost, has caused them to be preferred by the leading marketers . . . Write for prices . . . Learn the dollar for dollar value offered by Cincinnati Globes — in small or large lots.

THE CINCINNATI ADVERTISING PRODUCTS COMPANY
YORK and COLERAIN AVE.
CINCINNATI, O., U. S. A.

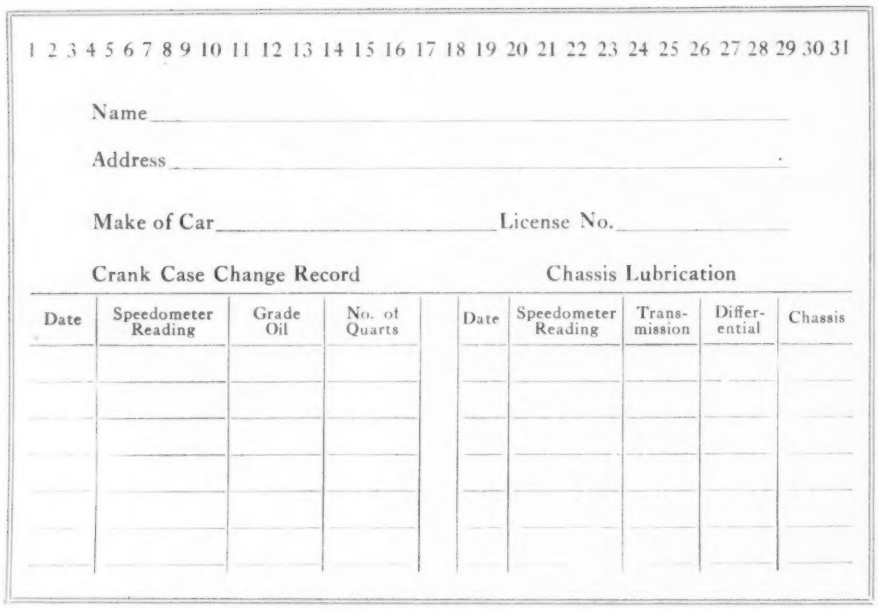
The last word in all glass globes

Permanent, not painted designs — separate replaceable faces — more economical — higher illuminating power.

This finer-looking globe is a blood-brother of the famous Cincinnati Metal Frame Globe . . . Both have replaceable faces with the design fired-into, and part of the glass . . . The weakness, heretofore, in all glass globes has been in the design . . . For while it is possible to paint a design, it is not possible to fire ceramic colors directly on an all glass globe at the necessary heat of more than 1000° *without* the globe collapsing . . . This weakness is overcome in Cincinnati All Glass Opal Globes by the use of separate convex faces which permit firing ceramic colors into glass . . . The Cincinnati method produces a permanent design which is not possible by any known process when design is placed directly on all glass globe . . . And separate faces are economical, too, in that broken faces may be replaced without going to expense of buying entire new globe . . . Write for full data on Cincinnati All Glass Opal Globes . . . They are economical to buy and use.

CINCINNATI GLOBES

SELL MORE GASOLINE AND OILS



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Name_____

Address _____

Make of Car_____ License No._____

Crank Case Change Record

Date	Speedometer Reading	Grade Oil	No. of Quarts

Chassis Lubrication

Date	Speedometer Reading	Transmission	Differential	Chassis

A metal tab on this oil change record card automatically brings to the station proprietor's attention the day of the month when Mr. Jones needs more oil for his car

brakes; Hi-Life for overhead valves; Standard Cleaners' solvent; lighter fluid for cigarette lighters; a complete line of AC and Champion spark plugs; a complete line of light bulbs; and numerous other accessories. A neat little show-case stands near the center of the room where a fine selection of candies, cigars and tobacco can be bought. In the southeast corner of the room is located the enclosure containing the desk, files, and other equipment incident to the operation of the business.

The next room west of the service station office is about 12 x 22'. Entrance may be gained either from the open front on the south or through a door leading from the northwest corner of the office. This is a tire repair unit equipped with such facilities as are required for the work they do. The men's lavatory is also located in this room. (The ladies rest room is a separate building located on the northwest corner of the lot, built of the same material. It harmonizes beautifully.)

The next unit, which takes in the rest of the building, is 44 x 22', and utilized for crank case service and greasing. Two air-posts are conveniently located away from the drives on the west end of the lot.

In talking with these gentlemen, I asked them if the service station business was not over-done in San Bernardino and asked if they did not protest the issuance of new service station permits. Promptly the reply came that they did not have any cause for complaint, that their business was good, and that they would not think of protesting against others who wished to embark upon the same line of business. They assured me that they tried to give each cutomer good service and good products, and that they were convinced that this was all that was required by motorists. They based this statement upon the fact that their business had grown steadily.

After frankly informing them of my purpose in asking questions, I continued: "About what will your gasoline sales amount to?" "Better than 25,000 gallons per month on the average," was the answer. "How about the lubricating oil sales, what will they average?" I asked next.

Immediately one of the partners stepped to his records and informed me that the sales of motor oil averaged approximately 600 gallons monthly, and the ratio of motor oil sold to each 100 gallons of gasoline was two and two-fifths gallons.

When I asked what gasoline and lubricating oils they sold, and why, they told me that they sold Violet Ray, Shell 400, Richfield, Red Crown and Red Crown Ethyl gasoline; and that the oils handled were eastern: Quaker State, Veedol, Parabase, Richlube, Hy-Vis, Sterling and Mobiloil. The western oils were Roco, Acme, Shell and Zerolene.

The reason given for handling so many brands of gasoline and lubricating oil was that all of the gasoline and oil handled by them were very popular with various motorists, that they wanted to supply what their customers wanted rather than to try to change their buying habits. The greatest number of automobilists preferred eastern oils while others were entirely satisfied with western lubricants.

In reply to my question as to what was done to stimulate business on the major products, I was told that every customer's name who lived within the trading radius, was entered on a three by five-inch card, indicating address, make of car, license number, crank case change record and record of chassis lubrication, etc. The card has numbers from one to 31 inclusive across the top. An open tab is slipped over the figure which represents the date when the crank case change or greasing job was completed. The card is then placed in a card file and on the same date the following month the matter is automatically brought to attention. These cards are gone through daily and a post card is mailed to each customer, a month from the date crank case oil was changed or greasing job completed.

If the customer does not come back for another crank case change or greasing job within a week or so after the postal is mailed, he is reminded by telephone that this should be attended to. If this does not bring results, a personal call may be necessary by one of the proprietors. No customer is bored. He is handled and solicited in a friendly business-like manner. "Our greasing business, alone, nets us between $150 and $175 per month," said Mr. Holcomb.

To further stimulate business, these men carry advertisements in the local papers. The ads are prepared by advertising experts. Names of the firms supplying products to them and who have a national reputation are hooked up with their own name and place of business. This kind of advertising has proven profitable.

To get some extra "kick" into the sale of tires, a neatly enclosed car was rigged up with a large broadcasting horn above the top and a microphone inside. As the car was driven up and down the main and side streets of the city, a pleasing entertainer provoked laughter, mirth and good-fellowship among his listeners while they heard Tire Tales of Telling Importance. Of course, Pommier & Holcomb's name was printed in good sized letters on the side of the rolling broadcaster.

Something new or different always gets and holds attention. This experiment worked out very well from a sales standpoint. In addition to this they always have good window displays which are attractive and interesting.

"I notice you carry a nice little line of accessories and specialties," I remarked. "How do they move, and what moves best?" "Replacement filters are excellent sellers with us," Mr. Holcomb answered. "When we drain a crank case and the car is equipped with a filter, we check up to find out the condition of the filter. If it is not in serviceable condition, we urgently suggest the necessity of replacement. In most every case we make the sale which amounts to from $2.75 to $3.50. There is a nice profit in it for us. When we sell a replacement filter we feel that we have rendered an added service to our customer.

"Hi-Life for overhead valves is another good seller and yields us a

An Exclusive JOBBER'S CONTRACT FOR YOU..

HOW many times in the past ten years have opportunities come to you with the announcement of new products? How many times have you regretted *afterward* your failure to "see" the product that found an eager taker elsewhere?

Then, consider the New Jesco!

First, Jesco offers a new lead base gear lubricant that is not duplicated today. The skill of the chemist, alone, did not achieve this higher standard of uniformity—but rather an entirely new process on special autoclave equipment that assures positive control of every step in manufacture. This equipment is *exclusive* with Jesco!

The future Jesco market is as big as the automotive and industrial field. *For Jesco has never lost a trial test* in competition with other lubricants, regardless of operating conditions of all automotive and industrial gear mechanisms!

Most important is the Jesco policy—*WE DID NOT FORGET YOUR PROFIT!* . . . Nor your assurance of consistent protection . . . Nor your interest in real merchandising assistance that will help you quickly build a satisfactory Jesco volume—*a repeating volume.*

We have been able to satisfy a score of jobbers with the first correspondence that this is *no ordinary proposition.*

Send for the full details of the Jesco Exclusive Jobbers Contract today.

JESCO LUBRICANTS CO.
1437 Gentry St.
North Kansas City, Mo.

The NEW

QUALITY JESCO LUBRICANTS

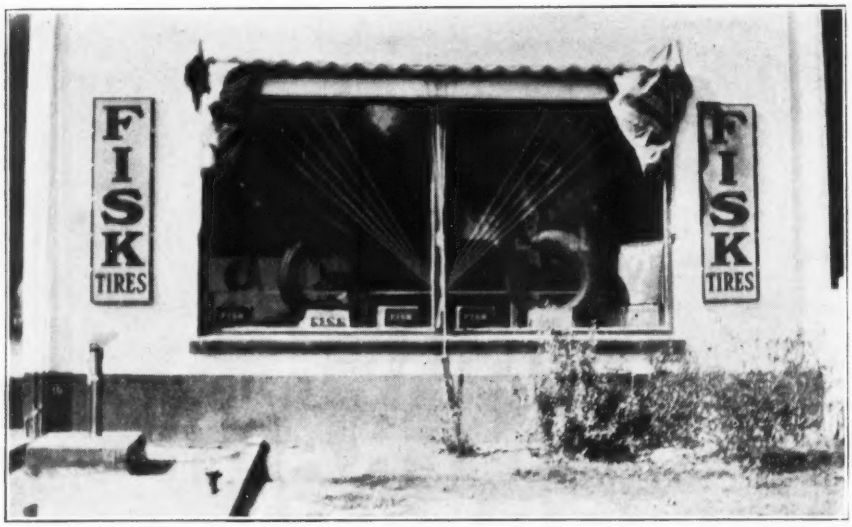
LEAD BASE GEAR LUBRICANTS

Please send the JESCO specifications and the Jesco proposition relating to exclusive territory contracts, without obligation of course.

Name .....

Address .....

.....



Neat window displays such as this one help the sale of tires and tubes

profit of about 60 per cent. Then there is Standard Cleaners' solvent, an ideal product for cleaning clothes, non-explosive, a good seller which also yields a handsome profit. You might think that handling lighter fluid would be more of a bother than profit producer. Many people carry lighters which are inoperative because they are dry. We sell a lot of that fluid, and there is a 50 per cent profit in it.

"You take several of these things put together and the aggregate of the profits add materially to those derived from our major products, gasoline and lubricants. You might be surprised to know that customers appreciate being able to get little things like that here. Most everyone has a sweet tooth. Children are always tickled to get a piece of candy, so we keep those things for the convenience of the trade patronizing us.

"The sale of accessories and small knick-knacks amounts to about $250 per month, and all told, we have not more than $500 invested in that kind of merchandise. The profit on all these items approximates 50 per cent. If we did not sell more than $75 worth each month, it would pay because we have ample room and this brings added patronage for gasoline and oil. We don't make so much on light bulbs and spark plugs, but they are very good sellers and a necessity for motorists."

"Had you had previous experience in this business before you two started this partnership?" I asked. "Yes," Mr. Pommier replied, "I had worked in a station with my father for about two years, and Mr. Holcomb had had four years experience with one of the major companies. All of this experience has been invaluable to us here because, we knew how much real service was appreciated by the public and what was necessary to build up patronage. We have injected some innovations into the business as we went along. Some excellent ideas have come to us as the result of reading oil literature and trade papers and many of them have worked out profitably in practice."

"How many men do you employ to assist you in carrying on the business?" was my next question. "Only two," was the reply. "But they are very good men. They alternate daily. One man opens up at six in the morning and works until five-thirty in the afternoon, with an hour out for luncheon. The other man comes on at nine in the morning and works until nine at night, with an hour out for each meal. Each man has a day off each week."

"Do you have a set sales talk for yourselves and your men on each product offered to the trade?" I asked. "We do not, but we have thoroughly studied each product and discussed them among ourselves to the extent that we feel competent to answer any questions that motorists might ask. We do not feel that a sales talk committed to memory and repeated verbatim to each customer is a good policy; but, we do believe that it is our duty to be able to intelligently present our merchandise in straight conversational style without making any loose or exaggerated statements."

"Are your men as capable as you are to do that," I questioned. "Yes, I would say they are," came the reply. "We insist upon our men keeping thoroughly posted and they gladly do it."

"How much do you pay these men?" was the next question. "One of them gets $50 a week and the other one gets $40 a week and they are well worth it, too. We believe in paying good salaries to good men and we don't want any other kind at any price. These men are as interested in our business as they would be if it belonged to them personally. They are not afraid to work a few minutes over time if necessity demands it. They are never late to work, and they take care of the customers who come in such fashion as to make it a pleasure for them to come back.

"In other words they appreciate their connection with us just as any good man appreciates a connection when he is well paid. And, I also want you to know what we appreciate the good, faithful and thoughful service they give us. In our opinion, constant change of help is a great mistake."

"To what do you attribute the very satisfactory growth of your business to date?" I next asked.

"Well, there is no cut-and-dried formula that we know of for making a business pay a profit," came the thoughtful, pointed reply. "However, it is a proven fact with us that quality products can be sold at prices yielding reasonable returns on capital invested. We positively refuse to cut prices or hand out secret rebates to any class of trade. I understand that at times some men in this business do that. We consider such practice unethical and poor buiness. We shall continue in the future, as in the past, to handle the quality merchandise demanded by our customers and shall endeavor to keep abreast of the times by giving the kind of service reasonably expected by our patrons. We have been, are now, and always shall be appreciative of those who honor us with their business. It is our duty to give value received for every dollar expended here and we earnestly endeavor to do that very thing. We have reason to be optimistic about the future."

This brought the interview to a close; but, as I walked away I could not help but think of Kipling's poem:

"And they asked me how I did it,
And I gave 'em the scripture text:
'You keep your lights so shining
A little in front o' the next!'
They copied all they could follow,
But they couldn't copy my mind,
And I left 'em sweating and stealing,
A year and a half behind."

Kipling's poem applies with considerable force to these two young business men in San Bernardino. Their business success may be, in my opinion, attributed to plenty of hard work, good sense, and a constant study of their merchandise as well as present and future possibilities for marketing them.

Canada imported 3615 tons of petroleum coke from the United States last December, or half of our exports of this product.

Australia was the largest foreign customer in December for petroleum asphalt made in the United States. That country took 6400 tons. The second highest purchaser was Spain. Nearly 4000 tons were shipped there.

ADVERTISING PAGES REMOVED

Salesmen, Speakers Hold Interest At Meetings of Attendants

By E. L. Barringer
N. P. N. STAFF WRITER

CLEVELAND

EDUCATION of service station attendants so they may know their goods and how to sell them is being attained by many Independent jobbers through regular meetings of their staffs. Several Independents use these meetings to clear up internal discord in the organization, and to build a spirit of loyalty.

Interesting speakers and topics is the secret of successful meetings. Benefits derived are in proportion to the interest displayed by the men, and how well the subject has been driven home. Fortunately there is an unlimited supply of talent available.

Refinery salesmen on the road are many, and they have a number of qualifications that fit them to address meetings of attendants. To be successful these men must have a comprehensive knowledge of various manufacturing processes; know what specifications are, how tests are run, what they mean; and what makes quality in a product. Many attendants are weak on these very points, and have no real knowledge of the goods they sell. Repetition of the story of petroleum, from the ground through the pump, is necessary, and flow charts and samples help drive home the point.

By the nature of their job these refinery salesmen know how to sell. They meet men of different temperament, in different moods, and learn to size up the prospects to select the proper approach. They know how to tactfully handle the irate customer. The attendant's sales job is fundamentally similar, and he can learn much from these teachers.

The refinery salesman also is interested vitally in having station attendants be better salesmen. Manufacturers no longer are indifferent to their product after it is shipped to the dealer. They watch their sales through to the ultimate consumer. The more gasoline a jobber sells the more gasoline his refinery source will sell. The salesmen know this, and appreciate that better station men make their commissions larger.

To take advantage of the refinery salesman's experience some jobbers call a meeting when he is in town over night. Literary license will permit the thought that these salesmen might be willing to route themselves into town when the jobber holds his regular meetings.

Another source of speaker material is right in the jobber's home town, the successful merchant in any line of business. Take the automobile dealers for instance. Each could be asked to address a meeting on his make of car, and especially on the lubrication system. Auto dealers are perennial speakers, ready for recall when the models change.

The better merchants would have a good subject in telling the men how to sell. While the goods are different yet there may be many good sales ideas tucked away in the brain of the dry goods merchant or the clothier. Bankers are excellent if the attendants are handling any credit sales.

The outside speaker brings a fresh viewpoint to the attendants. He helps the men allocate the service station in the whole scheme of retail merchandising. Perhaps of greater importance is his keeping the company official in charge of the meeting in the background. The president or general manager who delivers addresses at all meetings finds his task difficult. Soon interest wanes. The men know about what he has to say. And when there is a real vital point to get over its effectiveness is dimmed because it seems to be just another speech by the "boss."

Paul Deer, of Geo. W. Deer & Son, Crawfordsville, Ind., has realized this point and asks other merchants to talk primarily to avoid having his voice become too familiar to his men.

"Outsiders help me keep a back seat," he said. "The men get tired of hearing the same man, week after week, or month after month, and their interest is lost. When I have something of real importance they listen. They know that when I am the speaker I have something to say, not just giving them another bunch of words to fill in the time."

THE jobber's own bulk plant, especially if it has compounding kettles or a laboratory, is interesting material for the men. How many of your attendants have been around the bulk plant? How many could take a stranger through and accurately describe the tanks, pumps and lines and tell how the goods is handled through storage? Some executives, not engaged directly in the selling operations, have only a slight knowledge of what makes the bulk plant go.

Effective use of the laboratory and bulk plant in the educational program is made by the Ohio Lubricating Co., Columbus, O. Ray Cunningham, president and manager, believes the success of lubrication at oil company service stations is in having the men know lubrication. To know lubrication he places information about new models in their hands, and shows them with laboratory tests the value of various oils and greases.

The first training of his men is at the service station in conjunction with his bulk plant. After they know their job they are moved to other stations, but their education continues. Twice a month all the men meet at the bulk plant. Mr. Cunningham is experienced in plant operation so he runs laboratory tests for his men on his lubricants. He shows the men the value of oils from different base crudes, and what the results mean.

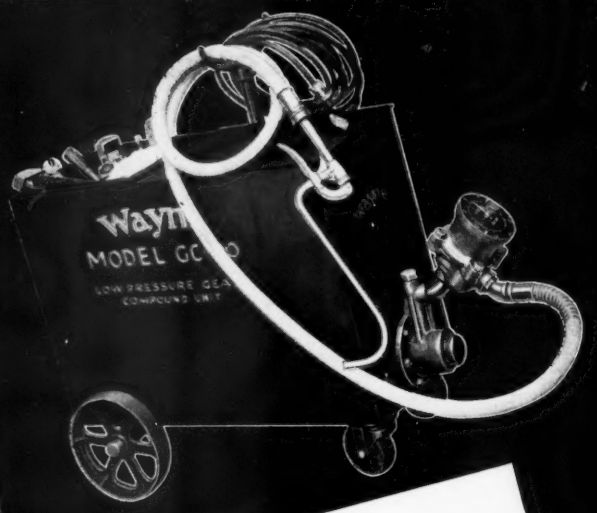
THE time to hold attendants' meetings is a problem peculiar to the individual jobber. Some companies hold them each week, others twice a month, and others one meeting a month. As to the time of day, the Arrow Oil Corp., Lansing, Mich., holds its meetings on Tuesday night. This was found to be the dullest evening of the week. Stations close an hour earlier, and where this is not possible the substitute attendants are called to work. Jobbers select a time that is agreeable to the greatest number of attendants, have only a skelton organization working, and stagger this schedule so attendants do not miss two consecutive meetings.

Many jobbers provide refreshments to help out with their meetings They may serve a light lunch, and pass out the smokes. The expense of these extras is small and it helps get the men in good humor.

Open forums have been found profitable so the men may ask questions and clear up doubtful points of a speech. Official announcements may be made to the men, and it is a good opportunity for passing on special information to the men.

Getting the men to ask questions.

Model GC-100, electrically operated Gear Grease Gun conforms with recommendations of the 22nd Annual Conference of Bureau of Weights and Measures.



IT AGITATES AS IT PUMPS

Wayne

ONE MAN ELECTRIC OPERATED
GEAR GREASE GUN

Wayne Model GC-100 measures any grease accurately under all weather conditions. An outstanding feature is the conveyor screw which agitates as it pumps, and delivers grease FREE OF AIR. Other equally important features are: One-man nozzle control; Ease of Filling; Handy Tool Box; Sturdy, accurate meter that will not register when grease supply is exhausted (electric operation and absence of air pressure accounts for this); heavy sheet steel construction throughout, low center of gravity and compactness add to life, portability, and movement into restricted spaces.

WAYNE COMPANY
FORT WAYNE, INDIANA

ATLANTIC AREA
FRY EQUIPMENT
CORP. DIVISION
ROCHESTER, PENN.

PACIFIC AREA
THE BOYLE-DAYTON
DIVISION
LOS ANGELES, CALIF.

to bring up points for discussion is a difficult task many jobbers have found. There seems to be no secret for prying the men loose outside of hoping someone will start something and the men become so interested they overcome their reticence.

Internal gossip among attendants at stations of the Elk Refining Co. in Huntington and in Charleston, W. Va. is brought to a head at the meeting. The chairman will call on the Last man passing on the gossip to speak out in meeting and tell his story and who told him. Thus the gossip is traced back to the source, with all the embellishments. This procedure helps clear the atmosphere of gossip and rumor and any bickering among the men.

The Elk Refining Co. holds attendants' meetings once a month. Men are free to air any complaints they have against the company, and complaints from customers about the products or service. Officials have found more real information crops out at these meetings regarding the workings of their policies and how the customers regard the company, than in a trip over the territory interviewing the men at the stations.

Every four months attendants in Huntington are pitted against those in Charleston in a sales contest, the winner being treated to a banquet. The company sets a quota on gasoline for a month for each division, and some real competition is stirred up. The men invite refinery and sales department executives to the banquets, and if the expense runs too high the company chips in on the bill. Some outside speaker is on the program, and entertainment is provided by the men.

Attendants of the Staebler Oil Co. in Ann Arbor, Mich., run their own meetings. One of the men is elected chairman and presides. In case an official wants to address the meeting he asks permission of the chairman to come in. This type of organization of the meeting was adopted as being beneficial in giving the men a free hand to run their meeting, and in getting them more interested. Since there are no officials present the men can air their grievances against the company, get them off their mind, and in turn the spirit of loyalty is built up.

The Patton-Henry Co., Fairmont, W. Va. holds attendants' meetings every Tuesday night at 9:15 o'clock. Stations are closed at this hour so all employees may attend. How to greet customers, free service, how to push certain items and similar subjects are discussed. Occasionally a salesman addresses the meetings.

The Arrow Oil Corp., Lansing, Mich., holds its meetings on Tuesday evening, as this is the dullest night of the week. All but four stations are closed at 8 p.m., and if possible substitute men are on duty at the open stations. For awhile the men conducted their own meetings, but this plan was abandoned on account of the labor turn-over.

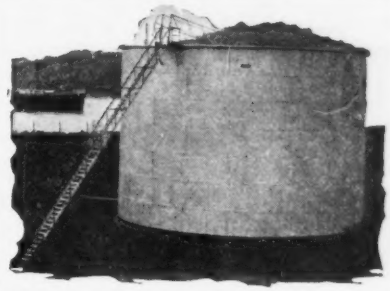
Some jobbers operating only a few stations in a city did not hold regular educational meetings, but tried to obtain the same results through personal contact with the men. Where the jobber rents his stations to capable operators personal contacts are used to reach the men, especially through a service station supervisor who spends all of his time visiting the stations to help in the management and in building sales.

New Stations Building

Note: Material used in this column is principally taken from the newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy.

The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

St. Paul, Minn.—Shell Petroleum Corp., service station.
Columbus, O.—Pure Oil Co., service station.
Lima, O.—Firestone Tire & Rubber Co., service station.
Wadsworth, O.—Central Service, Inc., filling station.
Oberlin, O.—Janby Oil Co., service station.
Columbus, O.—Cities Service Oil Co., filling station.
Belmond, Ia.—J. Swenson, filling station.
Northwood, Ia.—G. E. Whitcomb, filling station.
Apple River, Ill.—Edward Dittman, filling station.
Minneapolis, Minn.—Arthur Wise, filling station.
Canova, S. D.—John Bakke, filling station.
Oklahoma City, Okla.—D. M. Witt, filling station.
Rockport, Mo.—Standard Oil Co., filling station.
Council Grove, Kan.—Sinclair Refining Co., service station.
Las Animas, Colo.—Standard Oil Co., filling station.
Sioux City, Ia.—The Texas Co., filling station.
Des Moines, Ia.—Standard Oil Co., service station.
Bristow, Okla.—The Texas Co., filling station.
Brooklyn, N. Y.—Gadye Hydecker service station.
Chippewa Falls, Wis.—Golden Rule Oil Co., service station.
Houghton, Mich.—Eli Mattson, service station.
Rapid City, S. D.—M. Sayler, service station.
Tama, Ia.—Skelly Oil Co., service station.
Buffalo, Minn.—Standard Oil Co., filling station.
Sebeka, Minn.—Sebeka Co-operative Oil Assoc., bulk station.
Coffeyville, Kan.—T. N. Leonard, filling station.
Davenport, Ia.—Dr. W. A. Sebolt, filling station.
Houston, Tex.—R. H. Goodrich, filling station.
Golden City, Mo.—Shell Petroleum Corp., filling station.
Little Rock, Ark.—I. Kempner and M. L. Altheimer, service station.
Kinsley, Kan.—C. A. Moon, filling station.
Kinsley, Kan.—The Texas Co., filling station.
Emporia, Kan.—Standard Oil Co., service station.
Ellington, Mo.—Neely Oil Co., service station.
Russellville, Mo.—Vanosdoll Oil Co., service station.
Coats, Kan.—Champlin Oil Co., service station.
Boonville, Mo.—Sinclair Refining Co., service station.
Mexico, Mo.—Phillips Petroleum Co., service station.
Boulder, Colo.—Standard Oil Co., filling station.
Ft. Smith, Ark.—Mrs. Edith W. Stegall, filling station.
Manchester, Ia.—Mid-Continent Oil Co., filling station.
McCook, Neb.—Independent Oil & Gas Co., filling station.



Wiggins Roofs on marketing tanks

Re-roofing marketing tanks with Wiggins Roofs often costs nothing —since they may pay for themselves in a few months by stopping evaporation. We also furnish field-erected tanks—25,000 gals. and up—with or without Wiggins Roofs; also cylindrical tanks. Address our nearest office for quotations.

Chicago Bridge & Iron Works

Cleveland - - - 2206 Union Trust Bldg.
New York - - 3145 Hudson Terminal
Philadelphia - - - 1614 Jefferson Bldg.
Boston - 1516 Consolidated Gas Bldg.
Chicago - - - - 2125 Old Colony Bldg.
Detroit - - - - 1513 Lafayette Bldg.
Birmingham - - - 1534 50th Street, N.
Dallas - - - - - 3339 Magnolia Bldg.
Atlanta - - 2150 Rhodes-Haverty Bldg.
San Francisco - - - 1060 Rialto Bldg.
Havana, Cuba - - - - Apartado 2507

Reinforced Folio

362—A very compact folio, having three pockets. Made from the best grade smooth black cowhide. Stiffened bottom reinforced with metal studs. Case contains six 4-oz. bottles and five grease jars. Two inner cases may be carried.

Less 10% for Cash

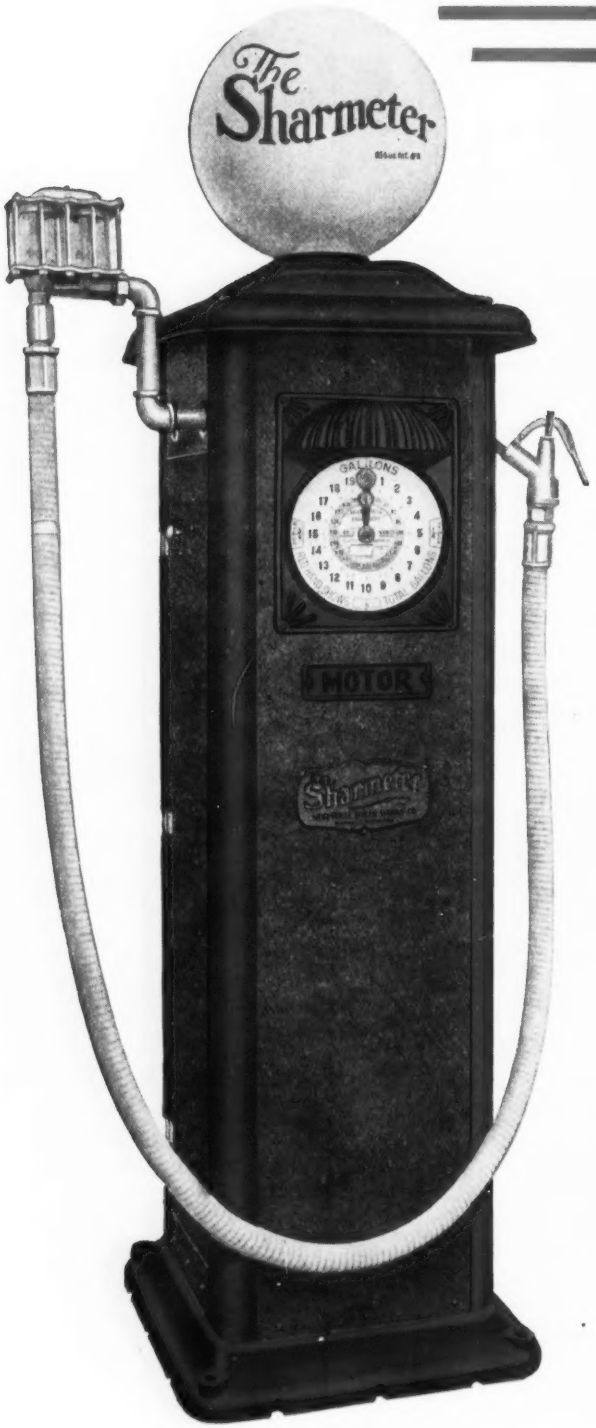
Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware, KANSAS CITY, MO.

A Distinctive Model



No. ME-513

10″ Double Dials

Single Meter Single Outlet

The Sharmeter
REG. U.S. PAT. OFF.

500 Series with 10″ Dials

Can Bear Underwriters Label When Required

THE increasing demand for larger dialed meters has brought about the designing of this distinctive SHARMETER cabinet which gives the utmost visibility of dials to both customer and attendant.

The double dial feature of this model makes it the most practical for island installation as the dials register accurately from both sides. Where there is only a single attendant at the station this means the saving of many steps and valuable time.

The painting of the rounded, panelled corners in the same color as the cast-iron base and top, offers a scheme of decoration for using your trade colors that presents a most pleasing effect and gives maximum attraction value to your dispensing equipment.

This cabinet can also be equipped with Two Meters and Two Outlets (No. ME-512) equivalent to two pumps, or with One Dial, One Meter and One Outlet (No. ME-511) Also made in Tandem type for two or four outlets.

Dimensions

Nos. ME-511, ME-512 and ME-513

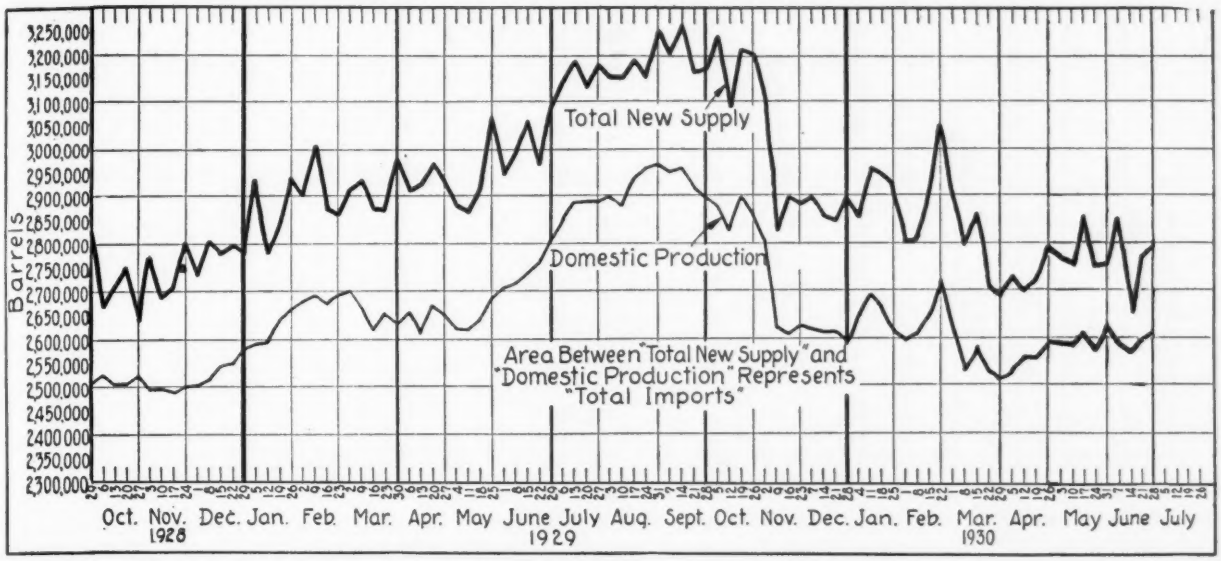
Base 32″ square. Bolt holes 10″ center to center. Cabinet shaft 17″ square. Height to center of dial 49″. Height to globe holder 5′ 6″.

For further description, construction features and complete details send for Bulletin M-4.

SHARPSVILLE BOILER WORKS CO.

SHARPSVILLE, PA.

Daily Average Crude Oil Production and Imports



By Telegraph—Daily average gross output, by fields in U. S., for week ending with dates below as compiled by A.P.I.

PRODUCTION SUMMARY	June 28	June 21
Production east of Rockies	2,013,650	2,000,450
Increase		13,200
Total production in U. S.	2,610,950	2,598,850
Increase		12,100
Crude oil imports	180,285	179,570
Increase		715
Total crude supply	2,791,235	2,778,420
Increase		12,815

OKLAHOMA	June 28	June 21
Allen Dome	20,300	20,550
Asher	1,550	1,750
Asher, West	3,750	5,000
Blackwell	3,500	3,500
Bowlegs	20,550	21,450
Braman	3,350	3,350
Bristow-Slick	15,650	15,650
Burbank	16,350	16,350
Carr City	8,600	8,700
Cromwell	7,550	7,600
Cushing	13,650	13,700
Davenport	1,200	1,200
Duncan District	9,200	9,200
Earlsboro	30,150	30,050
East Earlsboro	36,050	37,400
Earlsboro, South	18,200	14,400
Fox	1,200	1,200
Garber	4,350	4,350
Graham	3,450	3,450
Healdton	12,150	12,150
Hewitt	7,300	7,300
Hubbard	1,550	1,550
Konawa	23,650	18,850
Little River	33,350	35,800
Little River, East	14,400	16,600
Logan County	5,300	5,950
Maud	4,650	5,050
Mission	12,700	12,600
North Okmulgee	10,850	10,750
Oklahoma City	107,400	115,850
Osage (Outside Burbank)	26,100	26,100
Papoose	2,750	2,750
Pearson	650	650
Sasakwa	8,450	8,100
St. Louis	31,500	32,450
Scholem-Alechem	13,250	13,300
Searight	11,400	11,800
Seminole	21,450	21,550
Seminole, East	2,850	2,850
South Okmulgee	7,300	7,250
Thomas	700	700
Tonkawa	7,300	7,350
Wewoka	3,600	3,600
Yale-Jennings	8,100	8,150
Others	69,650	67,700
Total, Oklahoma	666,950	675,600
Decrease		8,650

KANSAS	June 28	June 21
Augusta-Fox Bush	2,900	2,950
Churchill	4,000	4,050
El Dorado-Towanda	14,500	14,450
Florence-Covert	800	800
Greenwood County	20,350	20,350
Oxford	2,800	2,800
Peabody-Elbing	3,000	3,000
Rainbow Bend	1,100	1,050
Russell	3,550	3,550
Sedgwick County	19,550	18,800
	21,650	19,850
Others	40,000	40,000
Total, Kansas	134,200	131,650
Increase		2,550

NORTH LOUISIANA	June 28	June 21
Caddo, light	9,700	9,800
Caddo, heavy	2,550	2,450
Cotton Valley	2,100	2,100
De Soto and Red River	3,100	3,100
Haynesville	4,600	4,600
Holly	1,250	1,300
Homer	3,550	3,550
Sarepta Carterville	3,400	3,300
Urania	5,150	5,100
Zwolle	3,250	3,250
Others	1,550	1,600
Total, North Louisiana	40,200	40,150
Increase		50

ARKANSAS	June 28	June 21
Champagnolle	4,400	4,300
El Dorado	4,100	4,100
Lisbon	950	1,000
Nevada	1,000	1,000
Smackover, light	5,300	5,250
Smackover, heavy	39,450	39,200
Stephens	900	900
Others	1,200	1,150
Total, Arkansas	57,300	56,900
Increase		400

TEXAS (OUTS'D5 GULF COAST)	June 28	June 21
Panhandle District		
Carson County	8,050	9,100
Gray County	75,650	73,300
Hutchinson County	23,200	23,900
Wheeler County	750	500
Others	750	300
Total, Panhandle Texas	108,000	107,100
Increase		900
North Texas		
Archer County	19,000	19,100
Burkburnett	8,350	8,350
Electra	11,250	11,250
Iowa Park and K. M. A.	5,900	5,900
Montague-Cooke	10,400	10,400
Wilbarger	24,700	24,750
Others	2,200	2,250
Total, North Texas	81,800	82,000
Decrease		200
West Central Texas		
Brown County	6,500	6,550
Callahan County	3,700	3,700
Coleman County	3,500	3,550
Eastland-Desdemona	5,700	5,700
Jack County	3,500	3,500
Palo Pinto County	600	600
Shackleford County	6,900	6,900
Stephens County	5,700	5,700
Throckmorton County	1,000	1,050
Young County	23,100	23,800
Others	800	800
Total, West Central Texas	61,000	61,850
Decrease		850
West Texas		
Crane and Upton Counties	38,900	36,000
Crockett County	2,600	2,100
Ector County	20,550	17,500
Howard County	30,000	29,000
Jones County	1,300	1,300
Mitchell and Scurry counties	2,200	2,100
Reagan County	17,850	17,250
Winkler County	70,300	70,500
Yates	115,450	112,000
Balance Pecos County	4,300	3,700
Others	3,900	3,700
Total, West Texas	307,350	295,150
Increase		12,200
East Central Texas		
Boggy Creek	3,450	3,750
Corsicana-Powell	5,700	5,600
Currie	350	250
Mexia	4,400	4,000
Nigger Creek	200	200
Richland	250	200
Van Zandt	24,900	25,150
Wortham	850	800
Total, East Central Texas	40,100	39,950
Increase		150
Southwest Texas		
Dale	250	250
Darst Creek	28,500	29,000
Laredo District	8,250	8,000
Luling	9,300	9,250
Lytton Springs	800	800
Salt Flat	28,200	31,700
Somerset	1,300	1,200
Others	1,500	1,400
Total, Southwest Texas	78,100	81,600
Decrease		3,500
Total (Outside Gulf Coast)	676,350	667,650
Increase		8,700

GULF COAST Coastal Texas	June 28	June 21
Barbers Hill	19,700	19,050
Batson	1,250	1,300
Big Creek	4,200	4,200
Blue Ridge	1,700	2,000
Poling	1,100	1,100
Damon Mound	700	700
Esperson	2,100	1,700
Fannett	950	1,000
Goose Creek	4,600	4,700
Hull	9,000	9,200
Humble	18,300	17,700
North Dayton	2,400	2,800
Orchard	3,200	3,100
Orange County	2,200	2,250
Pettus	5,000	5,000
Pierce Junction	10,900	9,200
Port Neches	1,500	1,500
Raccoon Bend	12,000	12,100
Refugio County	36,450	36,200
Saratoga	1,000	1,000
Somerville	1,600	1,600
Sour Lake	2,300	2,300
South Liberty	4,900	4,200
Spindletop	17,250	16,900
Sugarland	12,000	12,250
West Columbia	5,450	5,450
Others	5,250	5,700
Total, Coastal Texas	187,000	184,200
Increase		2,800
Coastal Louisiana		
East Hackberry	3,500	1,800
Old Hackberry	1,100	1,100
Edgerly	600	600
Evangeline	2,500	2,400
Lake Barre	600	700
Lockport	2,500	3,300
Sulphur Dome	3,700	3,750
Port Barre	3,200	3,500
Vinton	5,000	6,500
Others	3,200	3,100
Total, Coastal Louisiana	25,900	26,750
Decrease		850
Total, Gulf Coast	212,900	210,950
Increase		1,950

CALIFORNIA	June 28	June 21
Dominguez	10,200	10,400
Elwood-Goleta	42,500	43,800
Huntington Beach	26,400	28,000
Inglewood	17,200	17,200
Kettleman Hills	15,000	15,000
Long Beach	92,200	92,000
Midway-Sunset	63,500	63,500
Santa Fe Springs	115,000	110,800
Seal Beach	20,300	20,700
Ventura Avenue	48,000	48,000
Others	147,000	149,000
Total, California	597,300	598,400
Decrease		1,100

EASTERN	June 28	June 21
(Not including Michigan)	126,000	125,500
Increase		500

MICHIGAN	June 28	June 21
Mt. Pleasant	7,100	7,300
Muskegon	2,800	2,850
Saginaw	200	200
Total, Michigan	10,100	10,350
Decrease		250

ROCKY MOUNTAIN	June 28	June 21
Wyoming		
Big Muddy	2,000	2,000
Elk Basin	850	800
Grass Creek	2,100	2,150
Labarge	2,050	2,050
Lance Creek	150	150
Lost Soldier	850	850
Oregon Basin	6,400	4,750
Rock River	2,150	2,150
Salt Creek	28,200	27,900
Others	4,050	4,350
Total, Wyoming	48,800	47,150
Increase		1,650
Montana		
Cat Creek	1,150	1,150
Pondera	2,400	2,300
Sunburst	5,850	5,850
Others	50	50
Total, Montana	9,450	9,350
Increase		100
Colorado		
Florence	600	650
Fort Collins	1,350	1,350
Moffat (Craig)	1,350	1,150
Others	1,550	1,550
Total, Colorado	4,850	4,700
Increase		150
New Mexico		
Artesia	700	700
Balance Lea and Eddy Counties	22,900	17,000
Hogback	450	450
Rattlesnake	1,450	1,350
Table Mesa	100	100
Others	950	900
Total, New Mexico	26,550	20,500
Increase		6,050
Total, Rocky Mountain	89,650	81,700
Increase		7,950

Compilation Of Mid-Continent Refinery Operations

All Rights Reserved to The National Petroleum Publishing Co.

Mid-Continent Refinery Operations Week Ended June 27 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended June 27
Plants Reporting....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	94,500	161,700	106,100	82,000	77,000	521,300
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs..	64,196 + 2.3	123,577 + 3.3	75,880 + 11.5	37,458 — 16.2	58,902 + 2.4	360,013 + 2.1
Da. Av. Other Oils...	8,177 — 3.4	2,676 — 28.4	1,610 — 46.4	3,463 + 13.9	2,162 + 98.2	18,088 — 6.5
GASOLINE—Gallons						
Stocks, June 20.....	33,720,000	72,466,000	24,911,000	12,444,000	14,720,000	158,261,000
Prod. 6-20 to 6-27....	11,708,000 + 3.9	20,442,000 + 1.5	10,504,000 + 8.8	3,959,000 — 14.9	5,608,000 + 10.0	52,221,000 + 2.8
Ship. 6-20 to 6-27....	13,776,000 + 15.0	22,919,000 + 9.9	10,750,000 — 6.3	3,878,000 + 13.5	5,225,000 — 11.9	56,548,000 + 5.4
Stocks, June 27.....	31,652,000 — 6.1	69,989,000 — 3.4	24,665,000 — 1.0	12,525,000 + 0.6	15,103,000 + 2.6	153,934,000 — 2.7
Ratio Sales to Prod...	117.7%	112.1%	102.3%	97.9%	93.2%	108.3%
KEROSENE—Gallons						
Stocks, June 20.....	10,368,000	11,116,000	3,020,000	28,000	1,227,000	25,759,000
Prod. 6-20 to 6-27....	2,154,000 — 5.9	2,811,000 + 5.3	210,000 — 87.3	.....	559,000 + 15.5	5,734,000 — 19.2
Ship. 6-20 to 6-27....	2,210,000 + 10.7	1,864,000 — 22.0	226,000 — 85.8	15,000 + 87.5	665,000 + 11.0	4,980,000 — 24.4
Stocks, June 27.....	10,312,000 — 0.5	12,063,000 + 8.5	3,004,000 — 0.5	13,000 — 53.6	1,121,000 — 8.6	26,513,000 + 2.9
Ratio Sales to Prod...	102.5%	66.3%	107.6%	.....	118.9%	86.9%
STOVE DISTILLATE—Gallons						
Stocks, June 20.....	4,337,000	2,827,000	145,000	197,000	762,000	8,268,000
Prod. 6-20 to 6-27....	243,000 + 42.9	714,000 + 27.5	188,000 + 82.5	63,000 — 57.4	29,000 +262.5	1,237,000 + 25.1
Ship. 6-20 to 6-27....	346,000 — 1.1	515,000 + 28.4	132,000 — 10.8	61,000 — 54.8	29,000 +262.5	1,083,000 + 3.9
Stocks, June 27.....	4,234,000 — 2.4	3,026,000 + 7.0	201,000 + 38.6	199,000 + 1.0	762,000	8,422,000 + 1.9
Ratio Sales to Prod...	142.4%	72.1%	70.2%	96.8%	100.0%	87.6%
GAS OIL—Gallons						
Stocks, June 20.....	5,745,000	44,484,000	3,786,000	4,586,000	7,467,000	66,068,000
Prod. 6-20 to 6-27....	1,017,000 + 3.8	1,003,000 — 51.9	1,138,000 + 45.7	581,000 — 18.7	2,141,000 + 4.7	5,880,000 — 11.0
Ship. 6-20 to 6-27....	937,000 — 22.3	1,656,000 — 57.2	1,842,000 + 90.8	500,000 + 44.1	3,191,000 + 66.7	8,126,000 — 2.2
Stocks, June 27.....	5,825,000 + 1.4	43,831,000 — 1.5	3,082,000 — 18.6	4,667,000 + 1.8	6,417,000 — 14.1	63,822,000 — 3.4
Ratio Sales to Prod...	92.1%	165.1%	161.9%	86.1%	156.3%	138.2%
FUEL OIL—Gallons						
Stocks, June 20.....	28,021,000	45,401,000	71,697,000	22,567,000	25,646,000	193,332,000
Prod. 6-20 to 6-27....	5,048,000 — 1.2	6,766,000 — 11.8	8,190,000 — 0.4	4,690,000 — 15.8	5,731,000 + 0.2	30,425,000 — 5.8
Ship. 6-20 to 6-27....	4,295,000 + 14.1	7,056,000 + 9.7	6,847,000 + 16.0	4,508,000 — 31.5	5,505,000 — 16.5	28,211,000 — 3.6
Stocks, June 27.....	28,774,000 + 2.7	45,111,000 — 0.6	73,040,000 + 1.9	22,749,000 + 0.8	25,872,000 + 0.9	195,546,000 + 1.1
Ratio Sales to Prod...	85.1%	104.2%	83.6%	96.1%	96.1%	92.7%

Gasoline Produced by Various Methods, Week Ended June 27

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	7,205,000	61.5	13,110,000	64.1	7,267,000	69.2	3,506,000	88.6	2,008,000	35.8	33,096,000	63.4
Cracked.....	4,069,000	34.8	5,680,000	27.8	2,361,000	22.5	365,000	9.2	2,864,000	51.1	15,339,000	29.4
Natural.....	434,000	3.7	1,652,000	8.1	876,000	8.3	88,000	2.2	736,000	13.1	3,786,000	7.2
Total	11,708,000		20,442,000		10,504,000		3,959,000		5,608,000		52,221,000	

+ or — columns are % change over previous week.

Gasoline Demand Improves; Stocks Are Lowered

Staff Special—By Telegraph

TULSA, July 1.

IMPROVED motoring weather and anticipation of the July Fourth holiday were reflected the last week in gasoline demand at Mid-Continent refineries.

Gasoline shipments the week ended June 27 were approximately 3,000,000 gallons larger than shipments the preceding week. All districts except Louisiana-Arkansas and West Texas lowered stocks.

Gasoline production increased 1,200,000 gallons when daily average runs of crude oil were increased 7400 barrels. All districts except West Texas increased charges to stills slightly.

Gasoline stocks were reduced 5,200,000 gallons. Kansas' reduction was 2,000,000 gallons and Oklahoma's 2,400,000 gallons.

Kerosene production was reduced 1,

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended June 27. Change in stocks figures from May 30.

GASOLINE

	Gallons
Production	202,278,000
Shipments	213,529,000
Net change in stocks	—11,251,000
Ratio sales to production	105.6%

KEROSENE

Production	26,489,000
Shipments	24,119,000
Net change in stocks	2,370,000
Ratio sales to production	91.1%

STOVE DISTILLATE

Production	4,377,000
Shipments	3,938,000
Net change in stocks	+439,000
Ratio sales to production	90.0%

GAS OIL

Production	28,312,000
Shipments	31,995,000
Net change in stocks	—3,683,000
Ratio sales to production	113.0%

FUEL OIL

Production	122,664,000
Shipments	108,276,000
Net change in stocks	+14,388,000
Ratio sales to production	88.3%

300,000 gallons. Shipments were 1,500,000 gallons less. Stocks increased 700,000 gallons.

Distillate production was increased slightly. Shipments were steady. Stocks increased 150,000 gallons.

Reduction in gas oil output caused a 2,200,000-gallon decline in stocks.

Fuel production and shipments were lower. Stocks increased 2,200,000 gallons.

Wisconsin City Bars Bulk Gasoline Storage

MADISON, Wis., June 26.—Madison city council has adopted an ordinance barring gasoline bulk plants from the city. This ordinance is the most drastic in the current consideration of bulk plants by Wisconsin municipalities since the fire this spring at the Wadhams Oil Corp.'s plant at Ripon, Wis.

All bulk storage of petroleum products with a flash point under 100° F. is barred from the city by the ordinance. Light oil storage at service stations is limited to 6000 gallons. Saux City, Wis., also has adopted an ordinance to remove bulk plants from the city. Several Wisconsin cities have adopted diking ordinances.

What action oil companies in Madison will take on the anti-bulk plant ordinance has not been decided. The ordinance provides the plants must be removed by Oct. 1. From the main offices of the Standard Oil Co. of Indiana Robert J. Fellingham, general attorney, announced that the ordinance can not go unchallenged by his company.

Moving, or rebuilding bulk plants will entail a considerable financial outlay. A fuel oil jobber thought that some oil companies might build new plants outside the city for gasoline storage, if the odinance remained, and use the city plants for fuel oil storage, thus intensifying competition.

Madison has two bulk service stations that would be affected by the ordinance. The Black Eagle Oil Co., with headquarters in Milwaukee, has built an imposing station, with enclosed lubrication facilities. The other station is the Madison Trackage Oil Co.

The bulk plant fire of Wadhams Oil Corp. at Ripon started from a runaway horse and wagon. The runaway broke off a line from a gasoline storage tank to the truck loading rack. Gasoline drained from the tank, through the plant and down a ditch in the heart of the biggest industrial section of the town, and was ignited by a spark at the plant.

EDWARDS

Filling Stations Increase Sales in many ways

MAXIMUM convenience . . . greatest attraction value day and night . . . every square foot planned for profit . . . permanently beautiful . . . positive protection from fire, lightning, wind and weather . . . all at surprisingly low cost.

The beautiful Dixie Model shown above is an example of Edward's engineering and architectural skill. Many beautiful and popular designs to fit every need; Filling Stations, Garages, Parking Lot Buildings, Hangars, etc.

Let Edwards, with years of practical, specialized experience help you plan bigger profits into your business. Send size of lot and get our estimate. Write today.

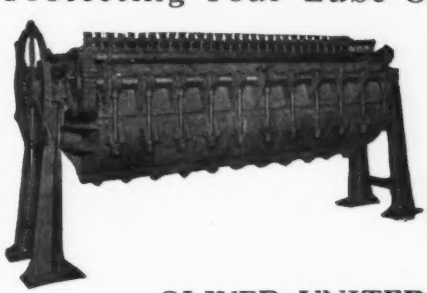
EDWARDS METAL SPANISH TILE ROOFING

The most beautiful roofing in the world used on the Dixie Model. Available for impressive architectural effects on all types of buildings, pump shelters, canopies, etc. Inexpensive, massive, permanent. Write for prices.

THE EDWARDS MANUFACTURING CO.

524-544 Eggleston Ave. Cincinnati, Ohio

Protecting Your Lube Oil Business Takes Only a Small Sweetland



Re-filtering lube oil assures shipment of clear stock.

Twenty-four shipments out of twenty-five may be okay. But something may get into that one shipment.

To offset this chance of going wrong, use a Sweetland Filter at the loading point. One small unit will handle a large gallonage.

OLIVER UNITED FILTERS INC.

SAN FRANCISCO, Federal Reserve Bank Bldg. NEW YORK, 33 West 42nd St.
CHICAGO, 565 Washington Blvd. LONDON, W. C. 1, 150 Southampton Row
PARIS, 63 Ave. des Champs Elysees—T. L. Genter, Concessionaire

SINCLAIR THREE-GAS SERVICE...

...let this real merchandising service increase your gallonage! , , , ,

Here's the new way—the progressive way—to sell gasoline! You give a motorist not only a brand that assures quality, but a *type* that fits his engine and his own driving habits. Today—with changing engines and varying driving conditions—*no one kind* of gasoline can satisfy every motorist and serve every purpose!

Sinclair Dealers now offer *three* gasolines that give three different performances!

Sinclair Aircraft Gasoline, the *Ace* of high test gasolines... gives fast starting and zooming acceleration, brilliant action in traffic and sporty performance on the road. Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline—domestic grade—and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk.

Sinclair H-C Gasoline... stops knocks and keeps them stopped even on long hills... H-C is high compression fuel with a four-year record of superior engine performance—all gasoline—nothing added!

And—if a customer prefers to pay three cents less per gallon—there's Sinclair Regular Gasoline—for economy and mileage—full of eager power. The quality gasoline at a popular price. Let your customers *choose* their gas from these three remarkable gasolines—remember they're *all* gasoline, nothing added! Sinclair Three-Gas Service will increase your gallonage!

SINCLAIR REFINING COMPANY, INC., 45 Nassau Street, New York—*Atlanta, Chicago, Houston, Kansas City*

Refinery - Tank Wagon Markets

Gasoline Shipments Make Large Gains; Prices Generally Unchanged

CLEVELAND, July 1

LITTLE change was noted in the country's refined oil markets in the last week of June. The week's developments were of little importance. Outstanding perhaps was the continued increase in domestic gasoline shipments from practically every refining district. The previous week's activity in export markets subsided.

Both spot and contract shipments of gasoline showed substantial gains, according to reports received from virtually all refining and distributing centers. In the Mid-Continent, where a compilation of refinery operations is available this early, gasoline shipments rose 3,000,000 gallons to 56,658,000 gallons. Approximately 5,200,000 gallons of gasoline were taken from storage in that area with stocks standing at 155,904,000 gallons on June 27.

Prices reacted but little to the improved demand for gasoline; in fact seaboard markets, both eastern and western, experienced further declines.

U. S. Motor gasoline available in the middle west at under 6 cents, Group 3, was said to have been eliminated from the market, but there was no general upward movement of prices in this area. The 8.75-cent quotation for U. S. Motor at New York harbor spread to other districts along the seaboard where a minimum of 9 cents had been quoted previously. Tank car prices on the Pacific Coast were 0.25 to 0.5 cent lower both for interstate and intrastate business.

Prices for light and heavy burning oils showed further recessions in most markets. Kansas, where harvesting is under way, was the only district to report a satisfactory demand for kerosene. The low rate of industrial operations was held responsible for the inactivity of heavy fuel oils.

Lubricating oils were quoted lower in the Pennsylvania market but prices were steady in the Mid-Continent and along the Gulf Coast.

There was little new buying of wax, either foreign or domestic. Fully refined prices were unchanged; scale waxes were lower.

Chicago Gasoline Market Looks Up

Staff Special

CHICAGO, June 28

SPOT demand for gasolines took a turn for the better in the Chicago market in the week ended June 28, although little change was noted in tank car selling prices.

Practically all of the Chicago marketers reported enjoying a comparatively good demand for spot gasolines. Refiners said their movement to contract jobbers was about the best so far this year.

The increased demand was attributed by most sellers to favorable weather conditions and to the coming July 4 holiday. This will be a three-day holiday for many workers and record gasoline consumption is expected, providing weather conditions continue favorable.

Spot sales of gasoline were made during the week at the same price levels as prevailed at the end of previous week.

Marketers generally reported their resale buying prices were higher in most refinery districts and several of them advanced their selling prices 0.125 to 0.25 cent. On June 28 Chicago marketers offered U. S. Motor to jobbers at 6 cents for prompt shipment, although several increased their selling prices to 6.125 and 6.25 cents. While several marketers said they still could buy Oklahoma U. S. Motor for resale at 5.75 to 5.875 cents, most of them said it was difficult to buy any full specification goods under 6 cents. North Texas Motor still was reported available for resale at under 6 cents, but it was not as freely offered as earlier in the week.

Refiners' quotations on U. S. Motor generally ranged from 6.125 to 7 cents with sales reported on June 28 at 6.125 to 6.375 cents. Most of the refiners, who quoted Motor at 7 cents, said they were not much interested in the spot market as their contract sales were heavy. A North Texas refiner who had been offering gasoline on the spot market reported he was entirely sold up and had purchased some U. S. Motor to help fill his orders.

Sales of U. S. Motor for delivery into Detroit, Mich. were reported at 9 to 9.25 cents delivered. Shipment was to be either from Pennsylvania or Central States refineries. It was reported that some gasoline moved to large industrial concerns at under these figures.

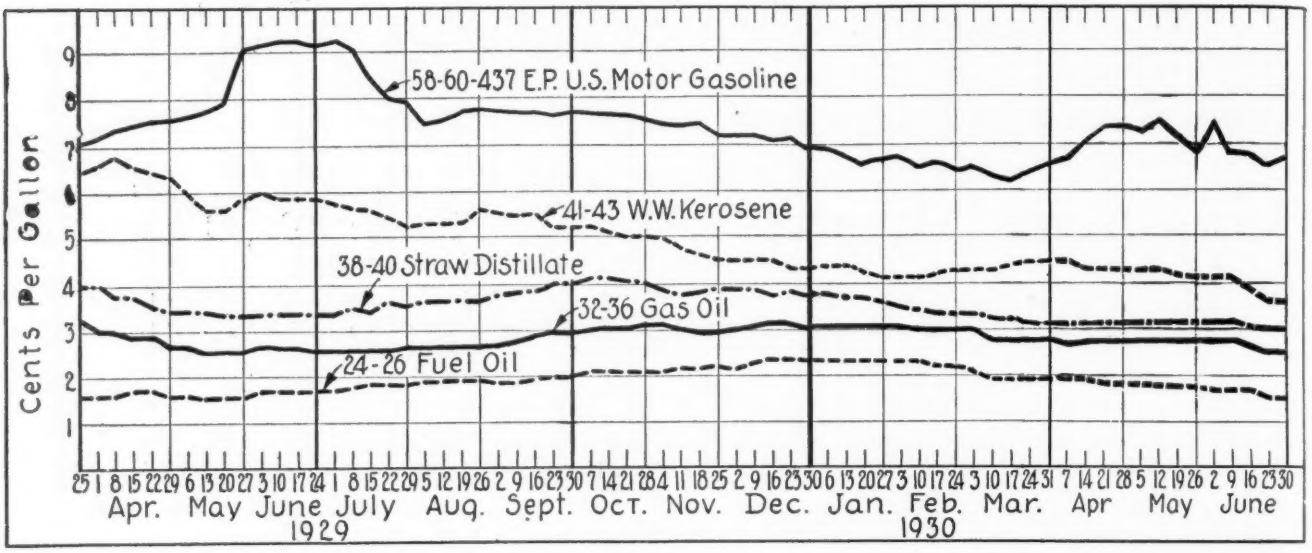
Inquiries for U. S. Motor gasoline over July were reported fairly numerous. Sellers' opinions varied as to what constituted a good sale. A few sales were made at prices ranging from 6 to 6.25 cents, while most marketers refused to sell under 6.125 cents. Several marketers said they had bought at 5.875 cents for resale from a few sources. Practically all refiners doing business in Chicago said they would not sell any gasoline for future shipment.

It was reported that a Central States refiner made several sales of U. S. Motor for July shipment, at a price to be 0.125-cent under the low of a published price range, date of shipment, with a maximum price of 6.25 cents f.o.b. group 3.

Little interest was shown in the kerosene market by most of the Chicago trade, and business was more or less at a standstill. Spot prices were lower with the 41-43 w.w. grade moving mostly at 3.50 to 3.75 cents. The bulk of sales made at 3.50 cents were reported on kerosene for shipment from North Texas.

Demand for the heavy oils generally was light, according to reports from most sellers. Prices eased off approximately 0.125 cent a gallon.

Current Prices of Principal Mid-Continent Refined Products


58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Cents Per Gallon
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr May June
1929
1930

Prices shown are in Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

Most of the sales reported were for shipment against previously made contracts.

Occasional periods of precipitation are likely over most of the Standard of Indiana territory next week, with temperatures mostly near normal, according to the Chicago weather bureau.

Venezuela Crude Offered At $0.75 to $0.80

NEW YORK, June 28.—Sellers' opinions of prices for Venezuela crude have varied considerably in the past week or two.

Some traders continued to report the market unchanged at $0.90 per barrel, f.o.b. deepwater in the Lake Maracaibo region. Others were of the opinion that three or four cargoes were available at $0.75 to $0.80 per barrel. A cargo was reported sold to a United States buyer the past week, but details of the transaction were withheld. It was intimated, however, that the price was within the foregoing range.

The cargoes of oil for sale were said to be in the hands of re-sellers and producers. Demand for Venezuela crude has not been heavy, the trade reported.

Indiana Standard Has New Tanker

CHICAGO, June 26.—The new oil tanker "Edward G. Seubert" built for lake shipping for the Standard Oil Co. of Indiana will be launched July 2 at the yards of the Manitowoc Shipbuilding Corp., Manitowoc, Wis.

The vessel will be christened by Mrs. Edgar H. Scott, sister of Mr. Seubert.

Directors of the Standard company and their wives will go to Manitowoc for the ceremony. These include Mr. Seubert and Mrs. Scott, Mr. and Mrs. Allan Jackson, Mr. and Mrs. E. J. Bullock, Mr. and Mrs. R. H. McElroy, Dr. and Mrs. R E. Humphreys, Mr and Mrs. C. J Barkdull, Dr. and Mrs. Gentry Cash, Mr. and Mrs. F. T. Graham; also Amos Ball, Melvin Traylor, A. W. Peake and Conger Reynolds.

The new tanker is 390 feet long, 53 feet wide and 27 feet deep. It has a deadweight tonnage of 6050 and will carry a maximum of 42,000 barrels of oil.

Crude Stocks Decline in May

NEW YORK, July 1.—The second decrease in pipeline and tank farm gross domestic crude stocks east of the Rockies took place in May when stocks declined 1,269,000 barrels, according to the American Petroleum Institute. This compares with a decline of 1,879,000 barrels in April. Stocks had increased the first three months of the year.

Shipments From Southern California

LOS ANGELES, June 25.—Shipments of bulk petroleum from southern California ports for week ended June 21 were as follows:

Destination	Crude	Gasoline	Diesel	Kerosene	Fuel	Gas-Oil	Total
Pacific For.	65,250	257,468	9,659	70,585	548,650	81,439	1,033,051
Atlantic Dom.	.....	801,804	.....	.....	.....	.....	801,804
Atlantic For.	.....	279,396	.....	71,000	.....	.....	350,396

Prices 10 Years Ago
June 28, 1920

	Oklahoma	Penna.
58-60 U. S. Motor	23.50–24.00c	27.00c
80-84 Natural	18.00–19.00c	.....
Kerosene (41-43 Okla.; 47 w. w. Pa.)	10.75–11.25c	16.00c
Fuel Oil (24-26 Okla.; 38-40 Pa.)	$3.00–$3.25	13.00–13.50c
Crude (Okla. 35-35.9)	$3.50	$6.10
Chicago tank wagon		26.00c

Prices A Year Ago
July 1, 1929

	Oklahoma	Penna.
58-60 U. S. Motor	9.2222c	10.25–10.75c
Grade A Natural	7.25–7.375c	.....
Kerosene (Okla. 41-43; Pa., 47 w. w.)	5.75–6.00c	7.25–7.50c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.675–$0.75	4.625–5.00c
Crude (Okla. 35-35.9)	$1.40	$4.05
Chicago tank wagon		16.00c

Mid-Continent Refinery Markets

Movement of Gasoline Continues Good

Staff Special
TULSA, June 28

LIGHT oils were relatively steady in price in the Mid-Continent the week of June 23 to 28, with the result that a majority of the trade believed that with a continuance of generally good weather an improvement would be shown early in July. Heavy oils were quiet with a few price recessions in some districts.

Gasoline demand was exceptionally good the entire week as compared with the corresponding week a year ago, sellers in all districts said. This demand appeared to have caused the gasoline market to become just a shade better toward the end of the week, but not sufficiently to cause any material change in prices.

Gasoline shipments for the corresponding week a year ago were slightly over 46,000,000 gallons from the refiners in the Mid-Continent reporting weekly operations to this publication. Gasoline shipments for the week ended June 20, this year, were above 53,000,000 gallons, and refiners generally believed that this week's shipments would equal if not exceed that figure.

Off specification gasoline continued to have its effect on the U. S. Motor market in all districts, but reports indicated that it was disappearing from the market.

Kansas refiners were considerably more optimistic as far as shipments were concerned, but reported they continued to encounter stiff competition from all districts. Their contract shipments were near the maximum.

Oklahoma refiners also said their contract shipments were heavy and spot demand had increased somewhat although a wide range of prices continued to exist. North Texas refiners apparently were in a slightly better position as a result of excellent demand. At least three refiners in that district were reported late in the week to be completely out of the market for the next two weeks. This may have been caused in part by the export order reported in these columns last week, and also to selling ahead for resale at prices ranging from 5.75 cents up, Group 3 basis.

Another factor which has aided the North Texas refiners has been the scarcity of clean tank cars as a result of the improved demand. Several refiners reported they were having considerable difficulty in obtaining sufficient cars for their shipments, which automatically would give some support to the spot market.

The Louisiana and Arkansas refiners reduced their prices for differential territory shipment about the middle of the week. This reduction, however, could hardly be classed as the effect of an easier market, but more to a readjustment in line with other markets. With U. S. Motor at 6 cents, North Texas, buyers in the southeast could get their gasoline delivered from that district at a lower cost than they could from the Louisiana-Arkansas refiners at 7 cents, even with the freight differential considered.

The opinion was general that most of the low priced gasoline would be absorbed next week as jobbers would buy either in anticipation of July 4 holiday demand, or for replacements after the holiday.

Natural gasolines lost considerable ground, with buying light in all quarters. Grades A and AA lost 0.25 to 0.50 cent a gallon, with the lower grades losing even more ground. Refiners were reported not buying as heavily as manufacturers had anticipated, but that was to be expected as long as the refiners are not taking any more gasoline out of storage than they have been taking lately. The lower prices, however, were expected to stimulate buying after the first of the month.

Kerosenes failed to develop any improvement in the course of the week. Kansas refiners reported the wheat harvest had started in that state and demand was improved but they apparently were able to take care of the increase in business within their own group. Oklahoma refiners made no changes in prices but said demand was quiet and that they doubted if lower prices would stimulate buying.

Several refiners in North Texas were reported to have kerosenes loaded with no shipping instructions, and the prevailing quotation for 41-43 w.w. grade moved down to 3.50 cents. Price reductions also were made in the Louisiana and Arkansas districts.

Some distillate buying was being done for storage but otherwise that commodity was virtually out of the spot market picture. The same condition apparently prevailed with reference to gas oils.

Fuel oils remained unchanged as far as prices were concerned in most districts, but refiners generally reported buying was light. Competition from districts outside the Mid-Continent continued to be felt keenly.

Neutral oils were comparatively quiet but increased buying was anticipated soon after July 1. Prices were steady. Bright stock buying was comparatively light. Wax was dull at unchanged prices.

Railroad Oil Stores Burn

NEW YORK, June 28.—Thirty thousand gallons of fuel oil, lubricating oil and kerosene were consumed in a fire June 24, at the oil store house of the Pennsylvania railroad near Kearny, N. J. The damage was estimated at $75,000.

The fire started on the oil-soaked platform. In a few minutes it had spread to the interior of the building where the oil was stored in drums. Intense heat caused these drums to explode, halting the efforts of firemen.

Three freight cars containing oil in drums and a tank car which were near the building, were removed before they caught fire.

Voluntary Gas Tax Payment Bars Later Recovery

CLEVELAND, June 26.—An excise tax, although it may have been paid under a law erroneously interpreted by state tax officials, cannot be declared illegal by the taxpayer after he has once voluntarily paid it and cannot be collected by him later, the Supreme Court of Ohio ruled March 19 in the case of the Canfield Oil Co. and the State of Ohio.

The Canfield company, as reported in the Jan. 2, 1929, issue of NATIONAL PETROLEUM NEWS, page 56, had, under the Ohio gasoline tax law of 1925, paid $17,300 in 1925 and 1926 on the benzol content in its gasoline. Later, when the Supreme Court declared that the benzol in a motor fuel was not taxable, the Canfield company discontinued tax payments on the benzol content of its gasoline and asked the state for a credit of $17,300. When this credit was refused, the Canfield withheld this amount from its tax payments in May, 1927.

The attorney general of Ohio brought suit against the company in the common pleas court of Cleveland to recover the $17,300. The judge ruled Dec, 17, 1928, that the company had the right to withhold that sum from its later gasoline tax payments. The state appealed its case.

The Supreme Court then ruled the taxpayer had the right to bring out the illegality of any tax when the state brings an action to collect delinquent excise taxes, but not after the taxpayer had once paid his tax in full, his payment of such tax being in that case held to be voluntary and bars him from subsequent recovery from the state of any part of the tax so paid.

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect June 30

	Price F.O.B. Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	6.8500	(Wt. Avg.)	6.8500	(Wt. Avg.)	
Kansas	6.50–7.00				S. O. Neb. & Indiana Territory, etc.
Kansas			7.2500	(Wt. Avg.)	Kansas only.
North Texas	6.00–6.25		6.00–6.25		
West Texas	6.25		6.25		
Louisiana-Arkansas	6.25–6.50				Michigan, Ohio and Indiana.
Louisiana-Arkansas			6.75		State or differential haul.
Indiana-Illinois	6.125–7.00		*		S. O. Indiana territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Chicago Resale Market

CHICAGO, June 28

SPOT sales of gasoline were reported comparatively active by many Chicago sellers the past week, while movement against contracts continued heavy. Tank car prices showed little change over the previous week. The bulk of sales of U. S. Motor were reported at 6 to 6.375 cents. A number of carlot marketers reported they were finding it difficult to buy for resale in either Oklahoma or North Texas at under 6 cents. They advanced their selling prices to 6.125 and 6.25 cents. Sales of U. S. Motor for July shipment were reported at 6 to 6.25 cents, although most marketers quoted a minimum of 6.125 cents.

Following prices represent majority of sales made on Group 3 freight basis, although shipments may originate in other refining districts, such as North and West Texas, Arkansas, Louisiana, Indiana, Illinois, Kentucky, etc.

	Prices June 30	Prices June 23	Prices June 16
58-60 U. S. Motor, 437 e.p.	6.00 – 6.375	6.00 – 6.50	6.25 – 6.625
60-62 437 e.p. gasoline	6.125– 6.50	6.125– 6.50	6.375– 6.75
60-62 400 e.p. gasoline	6.375– 6.875	6.50 – 7.00	6.75 – 7.125
64-66 375 e.p. gasoline	7.00 – 7.50	7.00 – 7.50	7.50 – 7.75
68-70 350-360 e.p. gasoline	7.375– 7.625	7.375– 7.625	7.625– 7.875
*Domestic Aviation Gasoline	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
41-43 w.w. kerosene	3.50 – 3.75	3.625– 3.875	3.875– 4.00
42-44 w.w. kerosene	3.875– 4.25	4.125– 4.50	4.25 – 4.50
38-40 straw distillate	2.75 – 3.00	2.875– 3.125	2.875– 3.125
32-36 ordinary dark gas oil	2.125– 2.375	2.25 – 2.375	2.25 – 2.50
32-36 dark zero gas oil	2.25 – 2.50	2.375– 2.625	2.50 – 2.625
32-36 straw zero gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
28-30 zero fuel oil (per bbl.)	$0.825–$0.85	$0.825–$0.875	$0.875–$0.925
28-30 fuel oil (per bbl.)	$0.825–$0.85	$0.825–$0.875	$0.85 –$0.90
24-26 fuel oil (per bbl.)	$0.625–$0.675	$0.675–$0.725	$0.70 –$0.725
18-22 fuel oil, low sulfur (per bbl.)	$0.50 –$0.575	$0.50 –$0.575	$0.55 –$0.60
18-22 fuel oil, high sulfur zero (per bbl.)	$0.50 –$0.575	$0.525–$0.575	$0.55 –$0.60

*Prices are based on U. S. Gov't specifications or better. Present Gov't specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

Weighted Average Prices

OKLAHOMA

	June 30		June 23		June 16	
	No. of Cars	Price	No. of Cars	Price	No. of Cars	Price
58-60 U. S. Motor, 437 e.p.	5	6.8500	14	6.6250	7	6.6786
60-62 437 e.p. gasoline	..	6.50–6.625 (See note)	..	6.50–6.625 (See note)	..	6.50–7.00 (See note)
60-62 400 e.p. gasoline	..	6.625–6.75 (See note)	..	6.625–6.75	1	7.2500
64-66 375 e.p. gasoline	..	7.25–7.50 (See note)	..	7.50–7.75 (See note)	..	7.50–8.00 (See note)
58-60 437 e.p. gasoline (Full U. S. Motor specifications not guaranteed.)	..	6.00–6.50	..	6.00–6.50	..	6.25–6.75

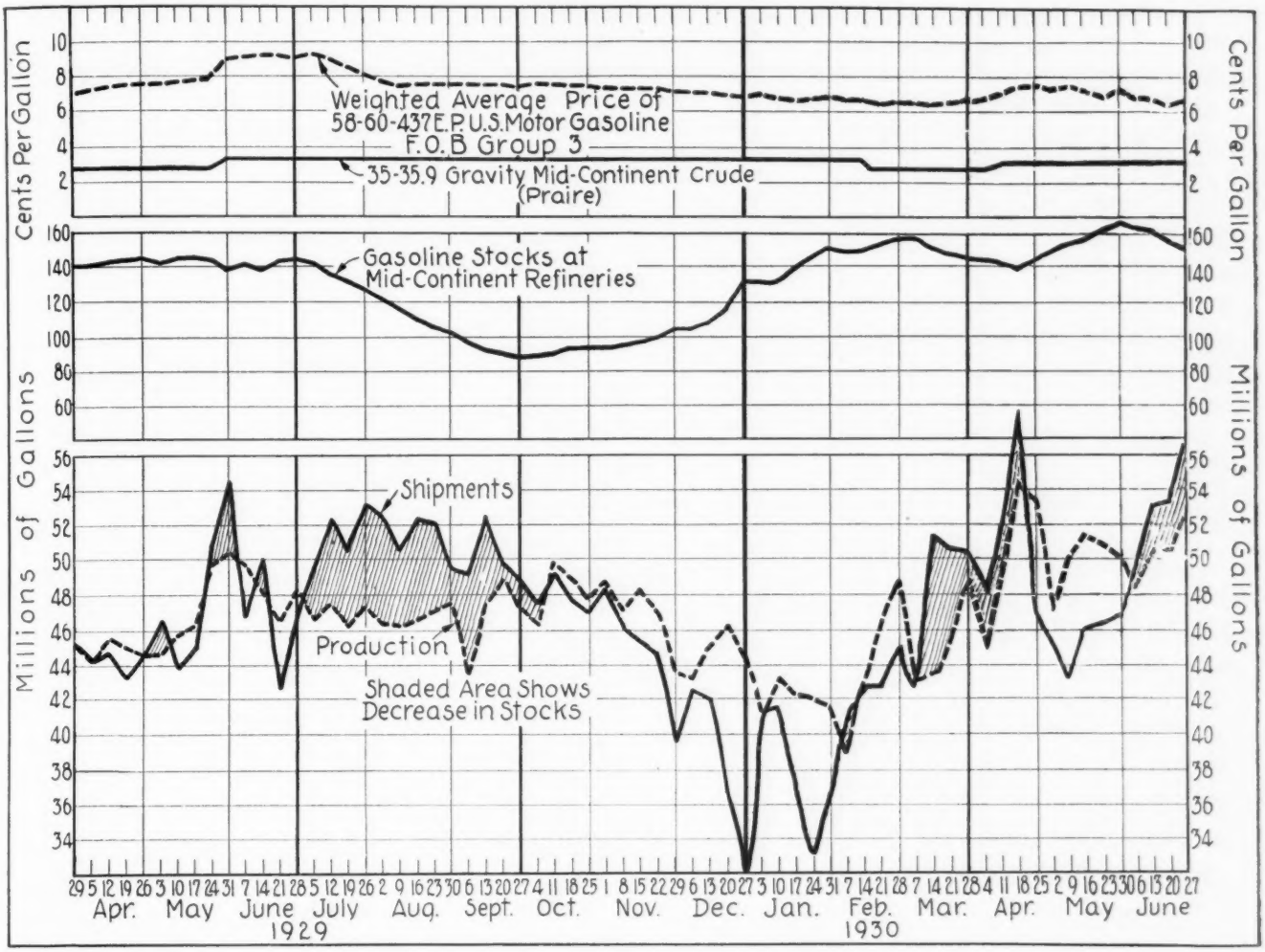
KANSAS

	June 30		June 23		June 16	
	No. of cars	Price	No. of cars	Price	No. of Cars	Price
58-60 U. S. Motor, 437 e.p.	31	7.2500	12	7.2083	5	7.2500

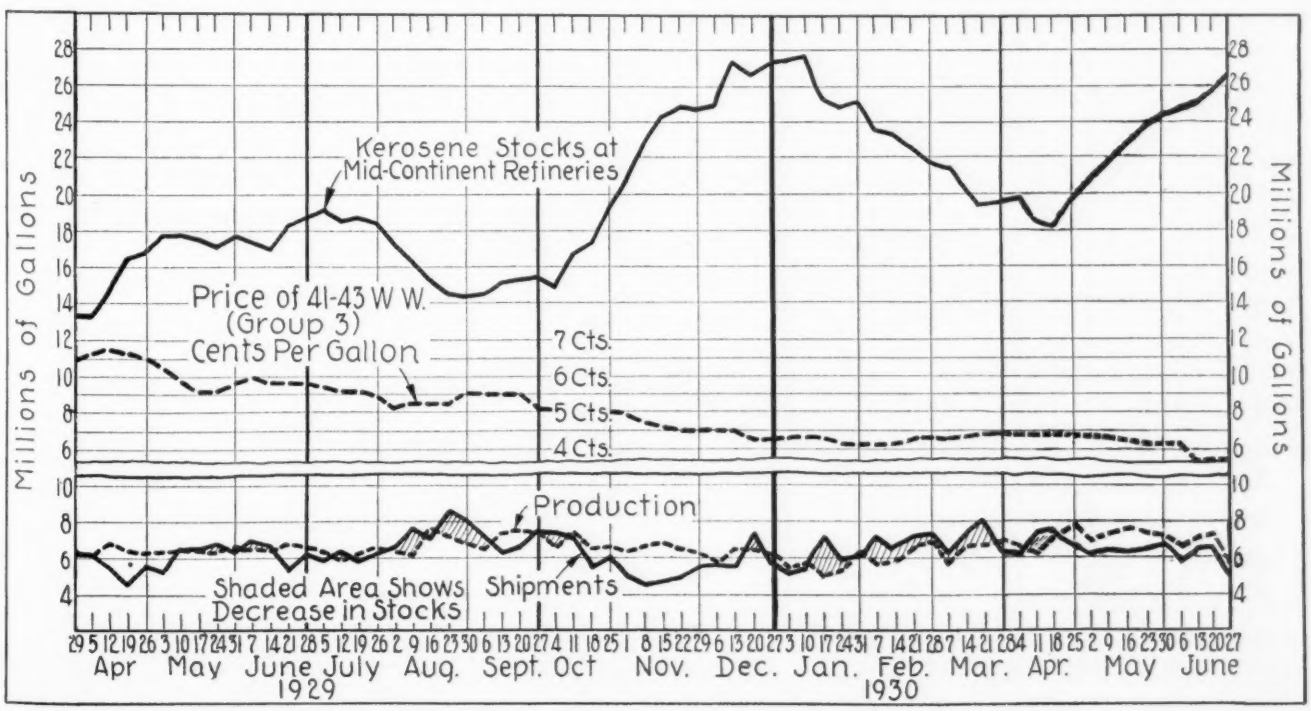
Note: No sales reported for the gasolines marked "see note" on the dates so marked; prices shown on such dates represent majority of quotations only.

Barometer of Mid-Continent Refinery Market—Week Ending June 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Weighted Average Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B Group 3
35-35.9 Gravity Mid-Continent Crude (Praire)
Gasoline Stocks at Mid-Continent Refineries
Millions of Gallons
Shipments
Production
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1929
1930

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 106



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices June 30	Prices June 23	Prices June 16
48-50 450 e.p. naphtha...	6.50 – 6.75	6.50 – 6.75	6.625– 6.75
50-52 450 e.p. naphtha...	6.50 – 6.75	6.50 – 6.75	6.625– 6.75
56-58 450 e.p. gasoline...	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
58-60 450 e.p. gasoline...	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
64-66 390 e.p. gasoline...	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
68-70 350-360 e.p. gasoline	7.75 – 8.00	7.75 – 8.00	7.75 – 8.25
‡Domestic Aviation Gasoline.....	8.50 – 9.25	8.50 – 9.25	8.50 – 9.25

‡Prices based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% rec. at 221°; 90% at 311°; 96% at 347°; end point, 374°F. Fighting grade in some instances sells at a premium over domestic aviation grade.

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75
54-56 Naphtha.....	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
58-60 U.S. Motor 437 e.p.	8.00 – 8.25	8.00 – 8.50	8.00 – 8.50
60-62 400-410 e.p. gasoline	8.125– 8.75	8.125– 8.75	8.125– 8.75
64-66 390 e.p. gasoline....	8.375– 9.25	8.50 – 9.50	8.50 – 9.50
68-70 350-360 e.p.....	8.75 – 9.50	9.00 – 9.75	9.00 – 9.75

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline

Ohio, delivery at any point.....	11.00	11.00	11.00

KANSAS (F. o. b. refinery Kansas destination)

60-62 437 e.p. gasoline...	7.25 – 7.50	7.25 – 7.50	7.375– 7.50
60-62 400 e.p. gasoline...	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75
64-66 375 e.p. gasoline...	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25

NORTH TEXAS (F. o. b. North Texas refineries)

56-58 450 e.p. gasoline...	6.00 – 6.25	6.00 – 6.50	6.25 – 6.50
58-60 450 e.p. gasoline...	6.00 – 6.25	6.00 – 6.50	6.25 – 6.50
58-60 U.S. Motor 437 e.p.	6.00 – 6.25	6.00 – 6.50	6.25 – 6.75
60-62 400 e.p. gasoline...	6.25 – 6.50	6.25 – 6.75	6.50 – 7.00
64-66 390 e.p. gasoline...	6.75	7.00 – 7.25	7.00 – 7.50
64-66 375 e.p. gasoline...	7.00 – 7.25	7.25 – 7.50	7.25 – 7.75
68-70 350-360 e.p. gasoline	7.625– 8.00	7.625– 8.00	7.75 – 8.00

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

50-52 naphtha.....	5.75 – 6.00	5.75 – 6.00	6.00 – 6.25
58-60 437 e.p. gasoline...	6.00	6.00 – 6.25	6.00 – 6.50
58-60 U.S. Motor 437 e.p. gasoline.....	6.25	6.50	6.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

58-60 U.S. Motor 437 e. p.	6.75	7.00 – 7.125	7.125

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	6.75	7.00	7.00

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	7.00 – 8.50	7.25 – 8.75	7.25 – 9.50
54-58 U.S. Motor, for outside state shipment....	7.00 – 8.50	7.50 – 8.50	7.50 – 8.75
58-61 375-400 e.p. gasoline	8.25 – 9.50	8.25 –10.00	8.00 – 9.50
42-45 Engine Distillate 445-480 e.p.....	7.00 – 8.00	7.50 – 9.00	7.50 – 9.00

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA (F. o. b. Oklahoma refineries)

Grade AA, 80-87.9, 90% Recovery.....	4.75 – 5.00	5.25 – 5.50	6.00
Grade A, 72-79.9, 90% Recovery.....	5.25	5.50	6.00 – 6.125
Grade BB, 84-92, 85% Recovery.....	4.50 – 4.75	5.25 – 5.50	5.50
Grade B, 76-83.9, 85% Recovery.....	4.75	5.25 – 5.50	5.75 – 6.00
Grade C, 80-92, 78% Recovery.....	4.50 – 4.75	5.25 – 5.50	5.50

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery.....	4.75 – 5.00	5.25 – 5.50	6.00
Grade A, 72-79.9, 90% Recovery.....	5.25	5.50	6.00 – 6.125
Grade BB, 84-92, 85% Recovery.....	4.50 – 4.75	5.25 – 5.50	5.50
Grade B, 76-83.9, 85% Recovery.....	4.75	5.25 – 5.50	5.75 – 6.00
Grade C, 80-92, 78% Recovery.....	4.50 – 4.75	5.25 – 5.50	5.50

NORTH LOUISIANA (F. o. b. Monroe District)

	Prices June 30	Prices June 23	Prices June 16
Grade AA.....	†5.50	†5.75	†6.25
Grade BB.....	†5.00	†5.75	†5.75
Grade C.....	†5.00	†5.75	†5.75

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. blend	6.50 – 8.00	7.25 – 8.25	7.50 – 8.50

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w.w. kerosene.....	4.625– 5.00	4.75 – 5.375	4.875– 5.375
46 w.w. kerosene.....	4.875– 5.25	5.125– 5.75	5.125– 5.75
47 w.w. kerosene.....	5.25 – 5.50	5.50 – 6.25	5.50 – 6.25
300 mineral seal.....	5.50 – 6.00	6.00 – 6.50	6.00 – 6.50

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosene.....	3.625– 3.875	3.625– 3.875	3.75 – 4.00
42-44 w.w. kerosene.....	4.25 – 4.375	4.25 – 4.375	4.25 – 4.50

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosene.....	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
42-44 w.w. kerosene.....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25

NORTH TEXAS (F. o. b. North Texas refineries)

40-42 w.w. kerosene.....	3.375	3.375– 3.50	3.50
41-43 w.w. kerosene.....	3.50	3.50 – 3.75	3.50 – 3.75

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene.....	4.50	4.50 – 5.00	4.75 – 5.00
42-44 w.w. kerosene.....	4.75	4.75 – 5.00	5.00 – 5.25

ARKANSAS (Ark., N. La. and Miss. destination)

42-44 w.w. kerosene.....	4.125	4.50 – 4.75	4.50 – 4.75

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosene.....	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.		(Viscosity at 70° F.)	
200 No. 3 Assoc. Filt.....	19.50 –22.50	21.00 –23.00	22.00 –25.00
180 No. 3 Assoc. Filt.....	16.50 –18.00	17.00 –19.00	17.00 –20.00
150 No. 3 Assoc. Filt.....	13.00 –14.00	13.50 –15.00	14.00 –15.00
		(Non Viscous)	
34 Grav. 330-340 Flash..	5.75 – 6.50	6.00 – 7.00	6.00 – 7.00

****OKLAHOMA** (F. o. b. Oklahoma refineries)

Vis.	Color	(Viscosity at 100° F.)		
100—No. 2.....		6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
150—No. 3.....		8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
150—No. 4.....		7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
180—No. 3.....		9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4.....		9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180—No. 5.....		8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200—No. 3.....		11.50 –12.00	11.50 –12.00	11.50 –12.00
200—No. 4.....		10.00 –11.00	10.00 –11.00	10.00 –11.00
200—No. 5.....		10.50	10.50	10.50
220—No. 3.....		12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4.....		12.00 –12.50	12.00 –12.50	12.00 –12.50
220—No. 5.....		11.00 –12.00	11.00 –12.00	11.00 –12.00
240—No. 3.....		13.50 –15.00	13.50 –15.00	13.50 –15.00
240—No. 4.....		12.50 –14.00	12.50 –14.00	12.50 –14.00
240—No. 5.....		12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3.....		17.00	17.00	17.00
280—No. 4.....		15.00 –16.00	15.00 –16.00	15.00 –16.00
280—No. 5.....		14.00 –15.00	14.00 –15.00	14.00 –15.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents Both Sales and Quotations.

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL (F. o. b. Gulf Coastal refineries)

Vis.	Color	Prices June 30	Prices June 23	Prices June 16
		(Viscosity at 100° F., pour test 0)		
100	No. 2 Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200	No. 3 Pale	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
300	No. 3 Pale	10.75 –11.00	10.75 –11.00	10.75 –11.00
500	No. 3½ Pale	12.00 –12.25	12.00 –12.25	12.00 –12.25
750	No. 4 Pale	13.50 –13.75	13.50 –13.75	13.50 –13.75
1200	No. 5 Pale	16.00 –16.50	16.00 –16.50	16.00 –16.50
2000	No. 4 Pale	17.00 –17.50	17.00 –17.50	17.00 –17.50
200	No. 5½ Red Oil	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
300	No. 5½ Red Oil	10.00 –10.25	10.00 –10.25	10.00 –10.25
500	No. 6 Red Oil	11.25 –11.50	11.25 –11.50	11.25 –11.50
750	No. 6 Red Oil	12.75 –13.00	12.75 –13.00	12.75 –13.00
1200	No. 5-6 Red Oil	15.00 –15.25	15.00 –15.25	15.00 –15.25
2000	No. 6 Plus Red Oil	17.00 –17.50	17.00 –17.50	17.00 –17.50

‡CALIFORNIA (F. o. b. California refineries)

Vis.	Color	(Viscosity at 100° F.)		
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

‡Neutral oils not manufactured commercially in California.

CYLINDER STOCKS

OKLAHOMA (F. o. b. Oklahoma refineries)

(Bright stock prices represent quotations to domestic jobbers only.)

190-200 Vis. D at 210° Brt. St	37.00	37.00	37.00
150-160 Vis. D at 210° Brt. St., 15-20 cold test	32.00	32.00	32.00
150-160 Vis. D Brt. Stock, 25-45 cold test	32.00	32.00	32.00
150-160 Vis. E 210° Brt. St	30.00	30.00	30.00 –31.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	9.00	9.00	9.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (F. o. b. Western Penna. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable	9.50 –11.50	11.00 –14.00	13.00 –16.00
650 Steam Refined	17.00 –19.00	20.00 –23.00	21.00 –25.00
600 Flash	21.00 –23.00	24.00 –26.00	26.50 –28.00
630 Flash	28.00 –31.00	29.00 –31.00	31.00 –33.00
600 Warren E	19.50 –21.50	22.00 –25.00	27.00 –28.00
600 Oil City E	18.50 –20.50	21.00 –23.00	25.00 –27.00
600 D Filtered	22.50 –25.00	23.50 –28.00	30.00 –33.00
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	25.00 –28.00	28.00 –29.00	30.00 –33.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	24.00 –27.00	27.00 –28.00	28.00 –31.00

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

122-124 white crude scale, a.m.p.	2.25 – 2.50	2.25 – 2.50	2.35 – 2.50
124-126 white crude scale, a.m.p.	2.25 – 2.50	2.25 – 2.50	2.35 – 2.50

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries)

124-126 White Crude Scale, a.m.p.	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	3.25 – 3.50	3.50 – 4.25	3.50 – 4.25
30-34 fuel oil	3.125– 3.25	3.25 – 3.75	3.50 – 3.75
28-32 fuel oil	3.125– 3.25	3.25 – 3.75	3.50 – 3.75

†Prices nominal ††Only one refiner quoting *Quotations only

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices June 30	Prices June 23	Prices June 16
38-40 straw distillate	2.875– 3.125	2.875– 3.125	2.875– 3.125
36-38 straw distillate	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
32-36 straw gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.625
32-36 straw gas oil zero	2.625– 2.75	2.625– 2.75	2.625– 2.875
32-36 dark gas oil	2.125– 2.375	2.125– 2.375	2.125– 2.50
32-36 dark gas oil zero	2.375– 2.50	2.375– 2.50	2.375– 2.625
28-30 zero fuel oil (per bbl.)	$0.85 – 0.95	$0.85 – 0.95	$0.90 – 0.95
28-30 fuel oil (per bbl.)	$0.825– 0.875	$0.825– 0.875	$0.85 – 0.90
26-28 fuel oil (per bbl.)	$0.725– 0.775	$0.725– 0.775	$0.75 – 0.80
24-26 fuel oil (per bbl.)	$0.65 – 0.75	$0.65 – 0.75	$0.675– 0.75
22-26 fuel oil (per bbl.)	$0.60 – 0.65	$0.625– 0.675	$0.625– 0.675
18-22 fuel oil (per bbl.)	$0.475– 0.525	$0.475– 0.55	$0.525– 0.575
16-20 fuel oil (per bbl.)	$0.475– 0.50	$0.475– 0.55	$0.50 – 0.55
14-16 fuel oil (per bbl.)	$0.45 – 0.50	$0.45 – 0.525	$0.475– 0.525

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw distillate	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
36-38 straw distillate	3.00	3.00	3.00
32-36 straw gas oil	3.00	3.00	3.00
18-22 fuel oil (per bbl.)	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
10-14 fuel oil (per bbl.)	$0.55 – 0.65	$0.55 – 0.65	$0.60 – 0.65

NORTH TEXAS (F. o. b. North Texas refineries)

38-40 straw distillate	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
38-40 p.w. treated distillate	3.125– 3.25	3.125– 3.25	3.125– 3.25
32-36 gas oil, cracked	2.00 – 2.375	2.00 – 2.375	2.375– 2.50
32-36 St. reduced gas oil	2.00 – 2.25	2.00 – 2.25	2.125– 2.375
24-26 fuel oil (per bbl.)	$0.50 –$0.55	$0.55 –$0.60	$0.60
20-24 fuel oil (per bbl.)	$0.45 –$0.50	$0.475–$0.50	$0.50
18-22 fuel oil (per bbl.)	$0.40 –$0.45	$0.425–$0.45	$0.45

****WEST TEXAS** (F. o. b. West Texas refinery, or unrestricted shipment)

34-38 gas oil	2.25 – 2.50	2.25 – 2.50	2.375– 2.50
30-32 gas oil	1.875– 2.125	1.875– 2.125	2.125– 2.375
28-30 zero gas oil	2.25 – 2.50	2.25 – 2.50	2.375– 2.50
18-22 fuel oil (per bbl.)	$0.50 –$0.60	$0.50 –$0.60	$0.55 – 0.65

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
30-32 gas oil, straw	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
14-16 fuel oil (per bbl.)	$0.75 – 0.85	$0.75 – 0.85	$0.75 – 0.85

ARKANSAS (Ark., N. La. and Miss. destination)

30-32 gas oil, straw	2.50	2.75	2.75
32-36 dark gas oil	2.50	2.75	2.75
28-30 gas oil	2.25	2.50	2.50
20-24 fuel oil (per bbl.)	$0.95	$0.95	$0.95
9-12 fuel oil (per bbl.)	$0.75	$0.75	$0.75
Black oil	3.25	3.25	3.25

CALIFORNIA (F. o. b. San Joaquin Valley. Nominal pipe line charge to San Francisco 24c per bbl. more and to San Pedro 20c per bbl. more.)

14-18 fuel oil (per bbl.)	$0.45 –$0.65	$0.40 –$0.60	$0.45 –$0.65
14-18 Bunker oil (per bbl.)	$0.70 –$0.80	$0.70 –$0.80	$0.70 –$0.80
30-34 gas oil (per bbl.)	$0.80 –$0.95	$0.80 –$0.95	$0.85 –$1.00
27 Plus Diesel oil (per bbl.)	$0.80 –$0.95	$0.80 –$0.95	$0.85 –$0.95

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
Lily White	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
Cream White	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
Light Amber	3.25 – 3.625	3.375– 3.625	3.375– 3.625
Amber	3.00 – 3.375	3.125– 3.375	3.125– 3.375
Red	2.75 – 3.00	2.875– 3.00	2.875– 3.00

PETROLEUM COKE

****OKLAHOMA** (F. o. b. Oklahoma refineries)

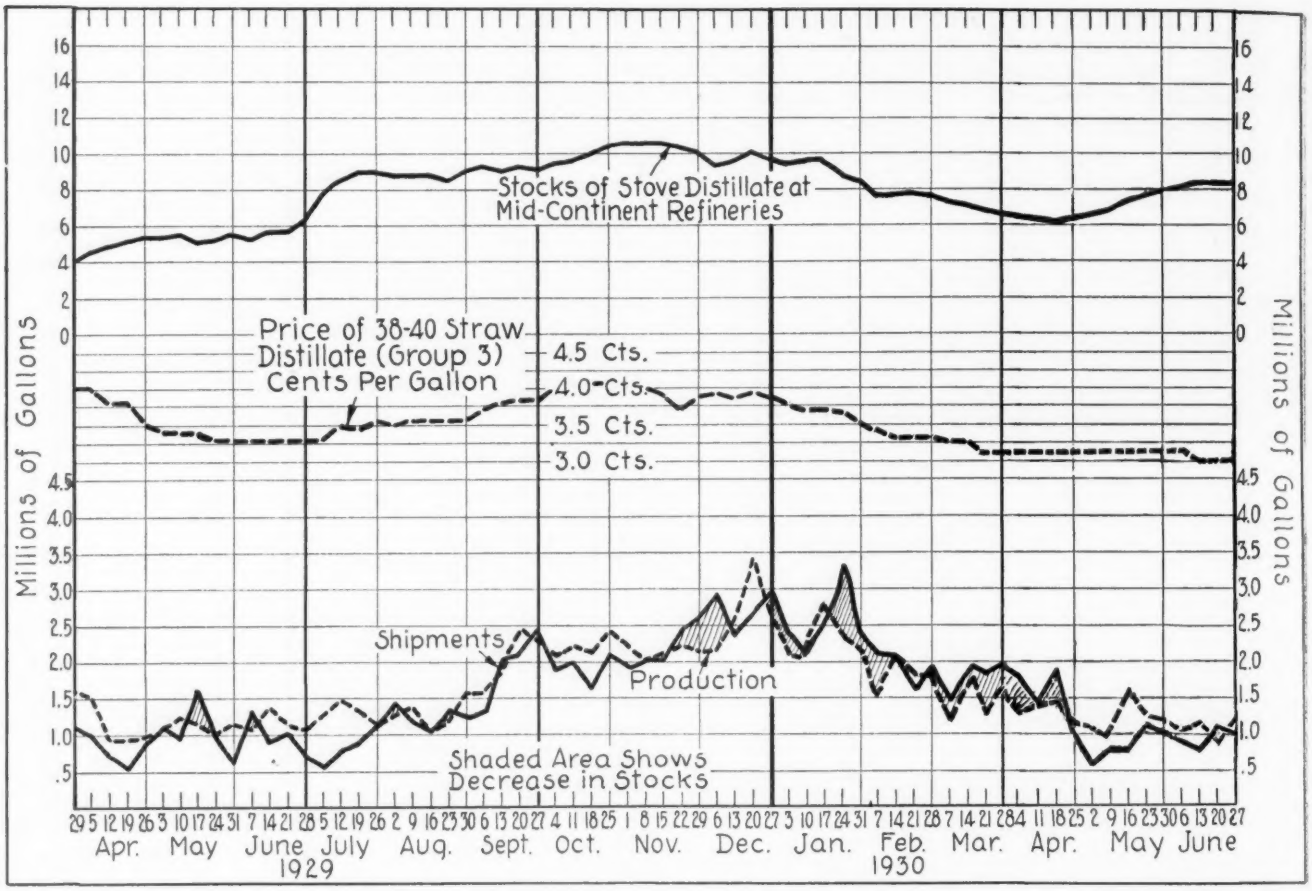
(Per ton in car lots)

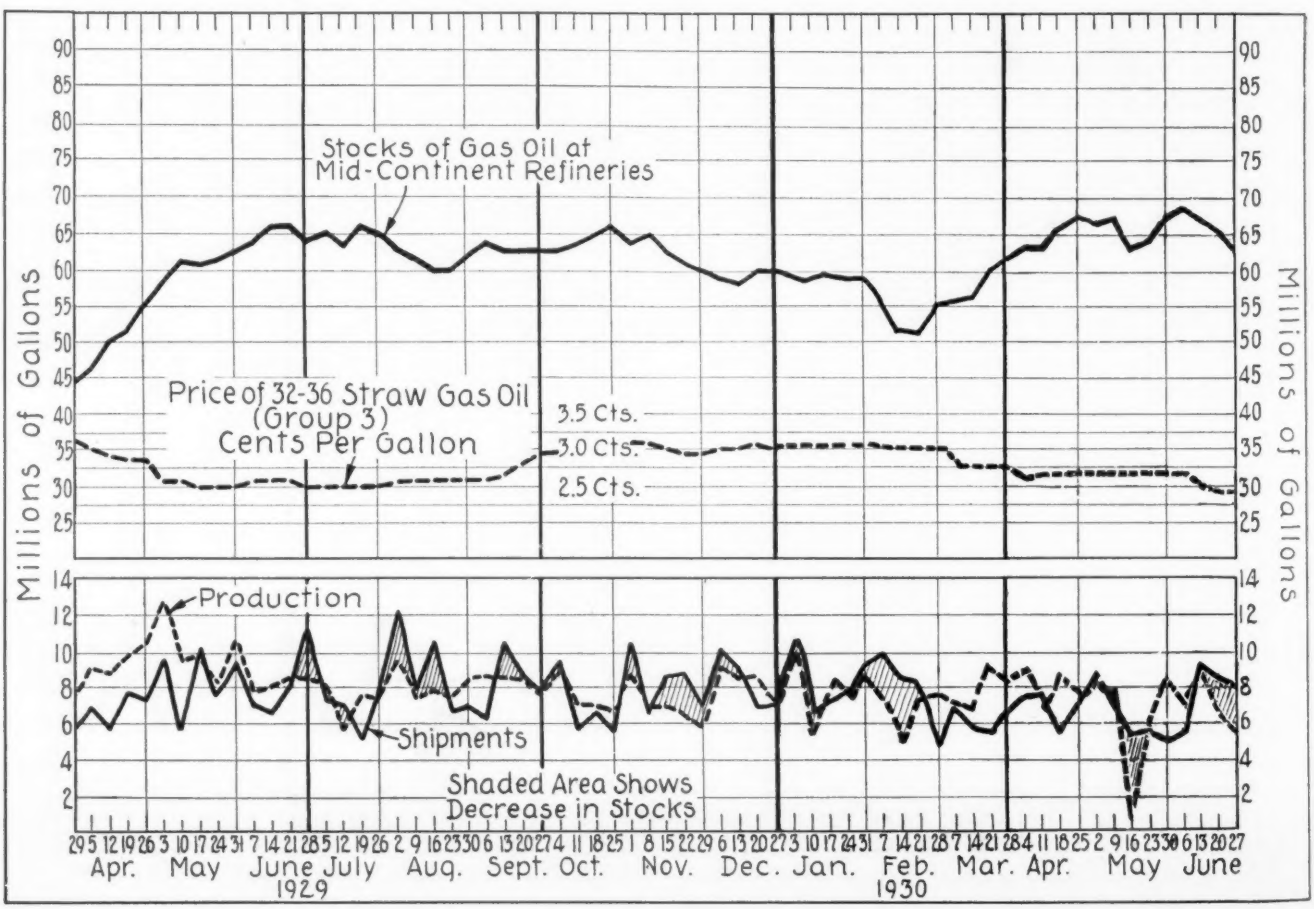
Lump	$4.50 –$5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending June 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week. From Reports Made by 93 Plants to National Petroleum News

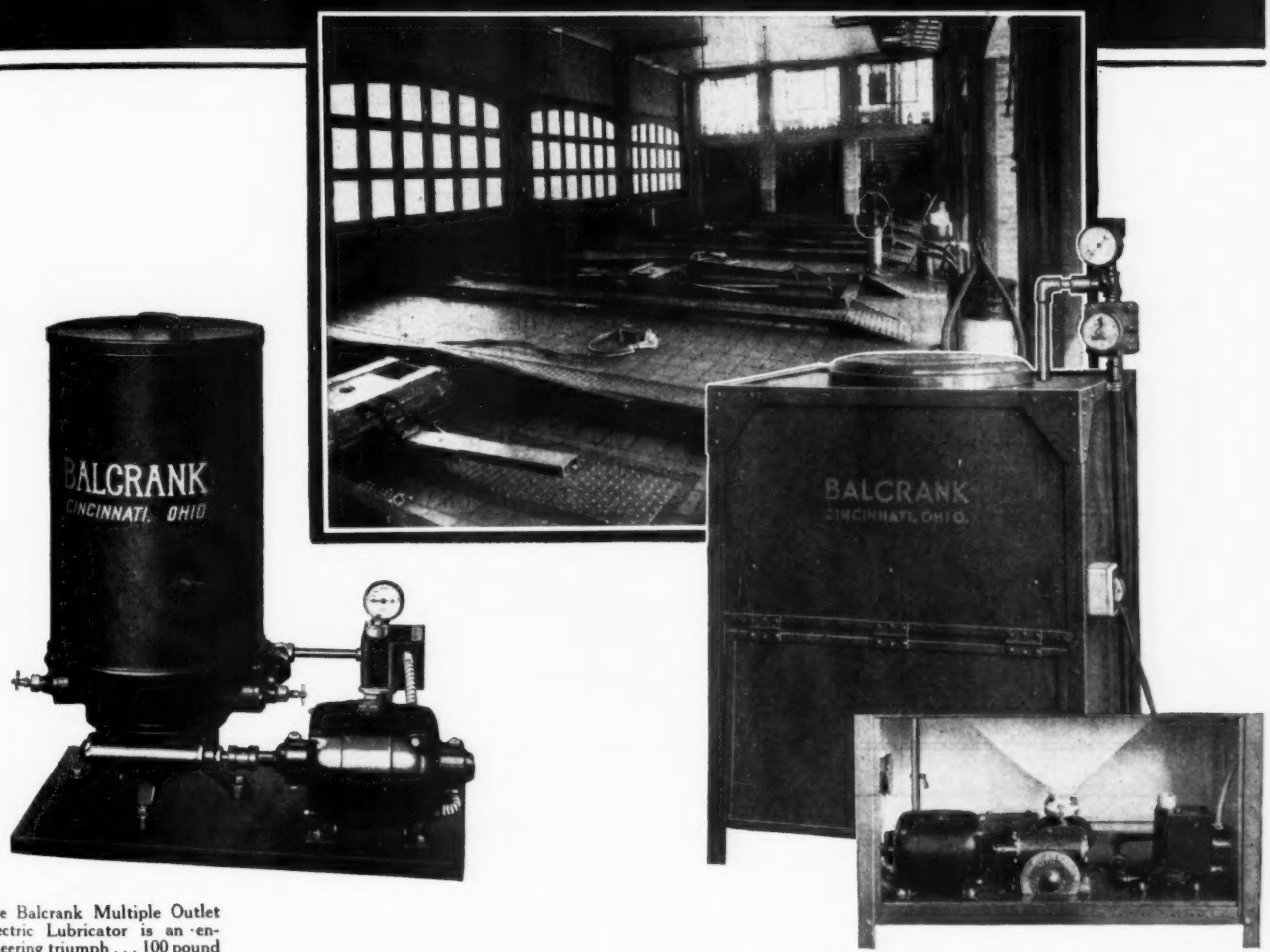

Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallon
4.5 Cts.
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shipments
Production
Shaded Area Shows Decrease in Stocks
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1929
1930


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Straw Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1929
1930

for SUPER GREASE SERVICE

BALCRANK

CENTRAL ELECTRIC UNITS



The Balcrank Multiple Outlet Electric Lubricator is an engineering triumph . . . 100 pound capacity tank . . . one-third H. P. motor . . . Automatically regulated by pressure-stat . . . grease strained . . . low pressure in the lines permits grease to flow into Balcrank Booster Gun where terrific 6,000 lbs. pressure is built up . . . each shot measured and controlled . . . no waste. Simple and rugged in construction and a profit maker.

For Super-Service Stations Balcrank Electric Central Units are the ideal greasing equipment. Everywhere engineers marvel at the efficiency and power of Balcrank Central Units that serve the larger stations . . . and the Balcrank Multiple Outlet Lubricator serving upto four pits or lifts, using the famous Balcrank Booster Gun, delivering up to 6,000 pounds of pressure. Let a Balcrank Engineer recommend the type of equipment for your service station.

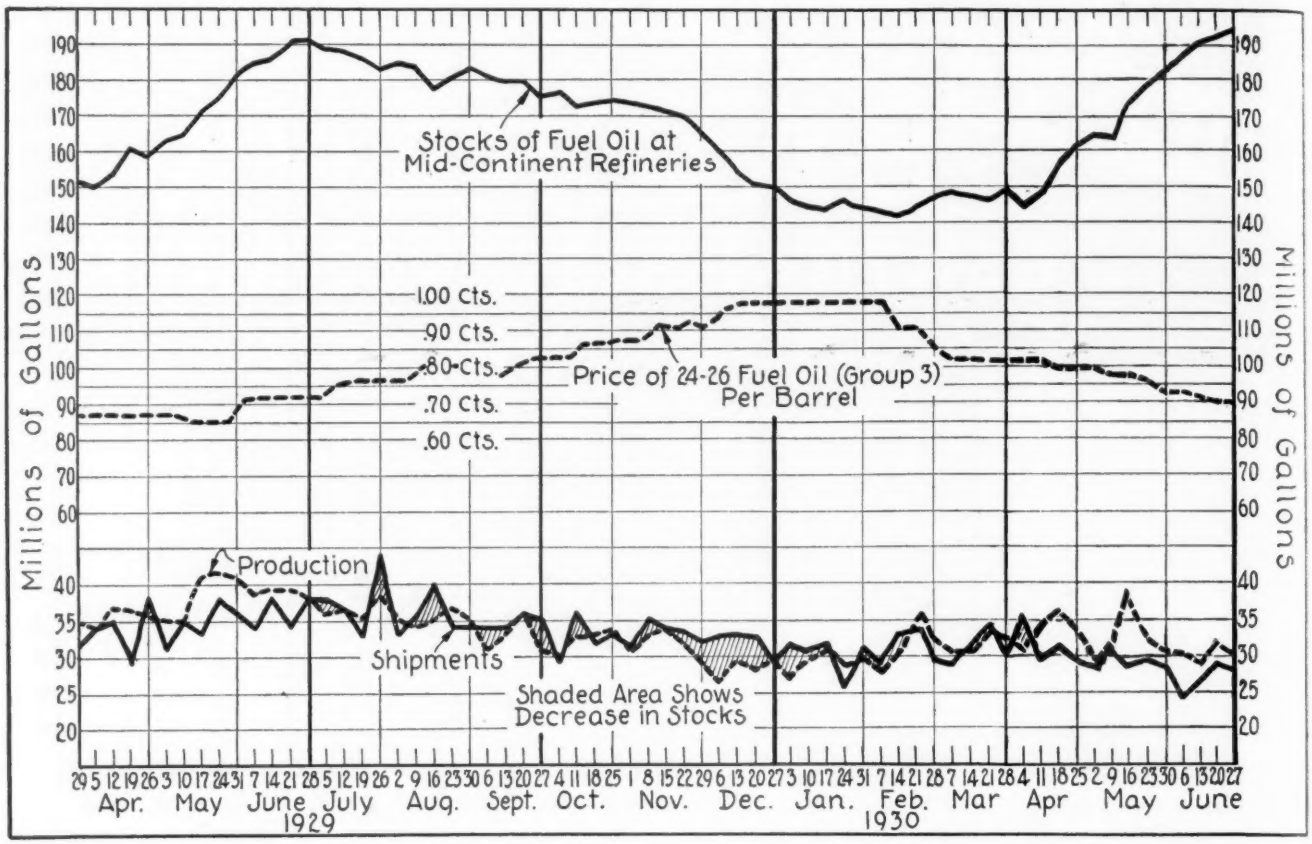
The Balcrank Centralized Lubrication Unit consists of tank and hopper capable of holding 500 pounds of grease . . . a one-half horse power motor . . . headers of 2 inch pipe . . . flexible rubber grease hose and powerful Balcrank Booster Guns, each shot automatically measured and regulated . . . adaptable to any series of lifts or pits.

Automotive and Industrial Lubrication . . . . Bumpers, Tie Rods, Drag Links, etc.

The CINCINNATI BALL CRANK Co. CINCINNATI, OHIO.

Barometer of Mid-Continent Refinery Market—Week Ending June 27

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News



California Refinery Market

Few Sales Reported in Quiet Market

LOS ANGELES, June 28

CALIFORNIA markets passed another featureless week with few spot sales and inquiries reported. Competitive underselling between major and independent resellers continued to affect domestic sales of gasoline.

In the export division, quotations were practically unchanged from those offered previously. Independent refiners with ocean terminals reported a better demand for bunker oil.

One refiner reported he was passing up the invitation to bid on approximately 350,000 barrels of bunker sea fuel oil for a Japanese buyer. The disinclination to bid on this business was said to be due to steady demand for bunker oil from domestic accounts.

Approximately 801,000 barrels of California gasoline moved to the east coast from southern California ports during the third week in June. This movement was reported by members of the export trade to consist of gasoline either under contract or shipped between subsidiary and parent companies.

The unsettled retail price situation was of chief concern to Pacific coast marketers the past week. Although gasoline tank wagon schedules remained unchanged, major companies were reported protecting their dealers through the granting of special concessions. One company was said to be delivering motor fuel in tank truck and trailer lots at a price of 4 cents a gallon under the retail figure posted at stations selling competing gasolines.

Late in the week, major company gasolines could be purchased at from 12.50 to 16.50 cents a gallon in the Los Angeles Basin. Average prices were in the neighborhood of 14.50 to 15 cents. This price war among dealers handling major gasolines has cut heavily into daily sales of independent refiners. In some instances the independent product could be purchased for as low as 10 cents per gallon in tank wagon lots as the small refiner attempted to maintain his gallonage.

Motor fuel for use in California and in adjoining states was offered 0.25 to 0.50 cent lower, than last week. The range of quotations to all points was 7 to 8.50 cents, with 3 cent tax to be added if used within the state.

One dealer reported he would sell 10 or 20 cars of U. S. Motor specification gasoline for 7 cents, but expected to shade this price to get any business. Another member of the trade who had been quoting 7 cents indicated he might sell several sizable lots of gasoline for 6.875 or 6.75 cents a gallon.

Natural gasoline also ended the week 0.25 to 0.50 cent lower. Small refiners are using as little of this commodity as possible for blending purposes because of its comparatively high price. Quotations the past week ranged from 7.25 to 8.25 cents.

Pennsylvania Market

Kerosene, Fuel Oil More Active

CLEVELAND, June 28.—Some aspects of the Pennsylvania market were more cheerful the past week, although a continuance of the decline in prices for neutral oils, cylinder stocks and bright stocks had a tendency to overshadow the encouraging developments. There was a steady demand for gasoline, increased activity in kerosene and some rather large volume buying of fuel oil.

Gasoline prices so far are the only ones that have not participated in the general decline in the Pennsylvania market which has been underway since the recent series of crude reductions began. Pennsylvania refiners have considered themselves fortunate particularly since gasoline prices in virtually every other refining district of the country are from 1 to 2 cents lower than they were a month or six weeks ago.

Some shading of 8 cents for U. S. Motor gasoline was reported in one or two sections of the Pennsylvania field late the past week but most sellers said material moving under this figure was not sufficient in volume to be representative of the general market.

Spot buying of kerosene was relatively light but several traders reported exceptionally good demand from eastern seaboard buyers for future shipment. Spot 45 w.w. kerosene was unchanged at 4.75 to 5 cents and the deferred buying was said to have been done at the same prices.

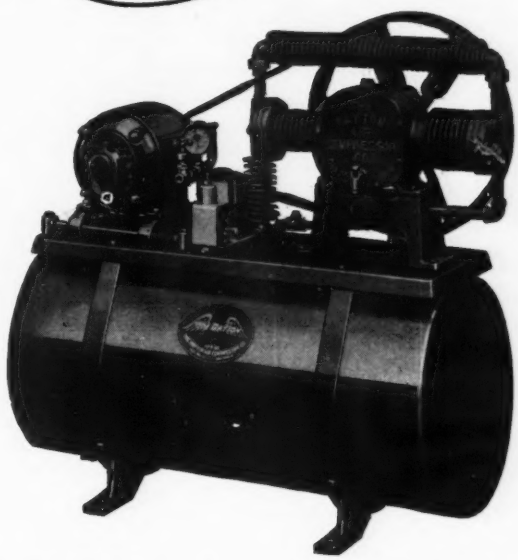
Fuel oils were reported in a slightly better position. A large buyer who is in the market periodically every two or three months was reported to have placed orders the past week for approximately 300 cars of fuel oil. It also was reported that a number of refiners were switching from coal to oil as fuel in their plants and this was helping the fuel oil situation considerably.

Cylinder stocks, bright stocks and neutral oils were offered 1 to 3 cents a gallon lower the past week. Light bright stocks sold as low as 25 cents a gallon but rumors of sales as much as 4 cents a gallon under this figure were dissipated when it was learned that material so involved represented speculative offers in New York and Chicago.

The most noticeable change in oil imports by various countries recently has been in France. That country imported 163,730 barrels of crude in 1929, as compared with 102,830 barrels in 1928 and but 29,594 barrels in 1927.

HERE'S AN AIR COMPRESSOR
That Renders Full Service At Low Cost

TIMKEN BEARING EQUIPPED



THIS IS
The
DAYTON
'G-8'

2 H. P. Motor,
60 Gallon Tank,
8 C. F. Capacity

150 lbs. Pressure—
Timken Bearings

We build 27 sizes and types in our line of Dayton Air Compressors. A complete catalog will be sent on request. We are talking the "G" type Two-Stage Units because of their remarkable record for continuous service, due to their special construction.

These are the only Two-Stage Air Compressors in the world which have eliminated all the trouble-makers.

No Connecting Rods—
No Crosshead Pins—
No Cotter Pins—
No Bolts—

Low first cost—
Low operating cost—
Investigate—
Get a Bulletin—

We build *only* Air Compressors and that insures compressor satisfaction to our customers.

DAYTON AIR COMPRESSORS
425 Valley St. Dayton, Ohio

Cross Cracking Plants

THE M. W. KELLOGG CO.
225 Broadway • New York

Tulsa, Okla.....Philtower Bldg.
Los Angeles, Cal.....1031 So. Broadway

Eastern Domestic Markets

Gasoline Markets Show Improvement

Staff Special
NEW YORK, June 28

GENERALLY speaking east coast gasoline markets were somewhat improved at the end of the past week. There were one or two soft spots but these were being cleared up gradually. Gasoline price reductions were made in three districts and the gas oil price range at Boston was narrower.

Several refiners in various districts were encouraged over an increase in spot orders and jobbers' indications of willingness to purchase for July shipment. In the majority of cases it was said that July shipments would be taken care of at current prices. A few said orders were heavier because of the coming holiday while others said they had noticed no increase.

The New York market was unsettled. Reports of price shading were heard but actual sales under the current market were hard to trace. One company "was meeting competition below 8.75 cents" but the majority of sellers said they were accepting no business below that figure.

Gasoline moving from water terminals in New England restricted New York seller's operations in that district. Several New York refiners said their shipments were made principally into New York state and New Jersey.

Bargain prices at service stations were being offered in Brooklyn and a portion of Queens county. It was reported that discounts were being given for the purchase of a certain number of gallons and that a change of oil and other inducements were offered for buying at certain stations.

California gasoline was quoted lower at New York at the end of the week. Quotations dropped 0.25 cent on the top of the price range.

Prices also were lower for U. S. Motor at Philadelphia and Baltimore, a reduction of 0.25 cent bringing the current market to 8.75 to 9 cents in line with New York harbor. One of the major refiners in Philadelphia offered gasoline at 8.75 cents, and two sellers quoted that price at Baltimore.

These prices were only temporary, the trade believed. Consumption was expected to increase substantially over the holiday. Also it was reported that the Standard of New Jersey would increase tank wagon prices in the near future. Any advance in tank wagon would be automatically reflected in tank car prices, the trade believed.

Price shading continued in New England but with less frequency. One seller continued to offer gasoline at lower prices in the Boston district. Independent jobbers showed considerable concern over this company's price of 10.50 cents, delivered in tank wagon.

Gas oil prices at Boston were lower because of developments in the tank wagon section of this market the past few weeks. Refiners quoted 4.75 to 5 cents compared with 4.75 to 5.25 cents a week ago.

Gulf Coast Markets

Foreign Inquiries Withdrawn

Staff Special
NEW YORK, June 28

MARKETS again were inactive at the Gulf the past week. Foreign buyers in the market during the week ended June 21, withdrew their inquiries. With the exception of heavy Panuco crude prices, quotations for all oils were unchanged.

The Spanish Monopoly withdrew its inquiry for large quantities of various refined oils June 24, as did the New York broker who represented a number of English Independents. No reason was given as to why the buyers had withdrawn.

Panuco crude was quoted at $0.55 to $0.60 per barrel, f.o.b. Tampico, which compares with quotations of $0.60 to $0.65 per barrel, the week previous. Two cargoes were reported sold to United States buyers last week within the former price range. Buyers were not greatly interested in the market the trade reported, and several believed current quotations could be shaded with firm business.

An east coast refiner sold a cargo of bunker C fuel oil last week to an east coast buyer at a reported price of $1.02, f.a.s loading point. This price was slightly lower than could be done at the Gulf with freight paid to destination.

While the gasoline market was inactive, many of the trade were optimistic over the future of markets. Some exporters believed that the unsettled condition of Mid-Continent markets the past few weeks was largely the reason that foreign operators were uninterested in purchasing; foreign buyers believed that prices probably would go lower and they were waiting to take advantage of them.

However, the Mid-Continent market has reversed its trend and conditions there point to a more stable price level. In view of this several traders believed there would be no reduction in the Export Association's postings. They also believed that foreign buyers, realizing "bargain days" were about over, would buy before prices swung upward at the Gulf.

Socony-Vacuum Merger Hearing Starts

TULSA, June 30.—Taking of testimony in the suit by the Government for injunction to prevent the merger of the Standard Oil Co. of New York and the Vacuum Oil Co. was started Monday in New York by special master Fred L. Williams. He is acting under appointment by the Circuit Court of Appeals. The Government's suit was filed in the Federal District Court at St. Louis where the original order dissolving the Standard Oil Co. was made. The master in this case is a former judge of the Missouri Supreme Court.

A long list of witnesses many of them oil men, have been called to give their opinions as to the effect the proposed merger would have on competition. The defense contends that operations of the companies are so divergent that the degree to which competition would be destroyed would be negligible.

Other hearings will be held in Chicago, Kansas City and Dallas and possibly other points. The Court directed the master to report not later than September 10.

TULSA, July 1.—All surplus straight-run gasoline and anti-knock gasoline made by the Peerless Oil & Refining Co., Chanute, Kans., will be sold through the Altitude Petroleum Corp., Tulsa and Chicago. The latter is opening offices in Chanute and Kansas City, and has added to its sales staff. The Peerless will refine approximately four cars a day for the Altitude company.

Wax Markets

Scale Waxes Quoted Lower

NEW YORK, June 28.—Demand for wax continued light in the week ended June 28. Prices for white and yellow crude scale were lower in the New York and New Orleans markets. Fully refined prices were unchanged. Little of interest occurred in either market.

Prices for crude scale waxes at the Gulf moved downward ahead of those at New York. The decline in the former market of 0.125 cent came early in the week. Refiners quoted 2.125 to 2.25 cents a pound for all grades.

Later in the week these commodities were quoted 2.125 cents in the New York market, although some refiners maintained their price of 2.375 cents for white crude scale.

Sales in both markets were few. A Mid-Continent refiner moved from the Gulf approximately 300 tons of 122-124 A.m.p. white crude scale at 2.125 cents. The wax was for prompt shipment to the United Kingdom and Columbia.

Inquiries also were few and buyers that showed any interest bid prices for the most part that refiners were unwilling to accept. An unconfirmed report was heard that a small quantity of distress wax had been sold for export at 1.875 cents, f.a.s. the Gulf.

Contrary to their position in the past, a few refiners this week, indicated they would accept orders at today's market for forward shipment. One or two were reported soliciting orders for shipment into 1931 and some for the remainder of the year. The majority, however, were uninterested for more than two months ahead while a few would sell for nothing but spot shipment.

The general opinion of price for match wax was 3.50 cents per pound, f.a.s. New York, although there were one or two traders who believed this price could be shaded. No sales were reported.

In several quarters it was believed that foreign stocks were low and that an increase in orders could be expected in the near future. The candle making season abroad opens in September and this is expected to add strength to the market. In the past, purchases to cover on additional requirements during this period have been made in July and August.

In case this buying materializes it probably will be on a hand-to-mouth basis, the trade believed. Many foreign accounts have indicated they were unwilling to tie up their money in future business.

Germany's imports of gasoline more than doubled in 1929. She took 17,670,000 barrels, compared with 7,078,000 barrels in 1928.

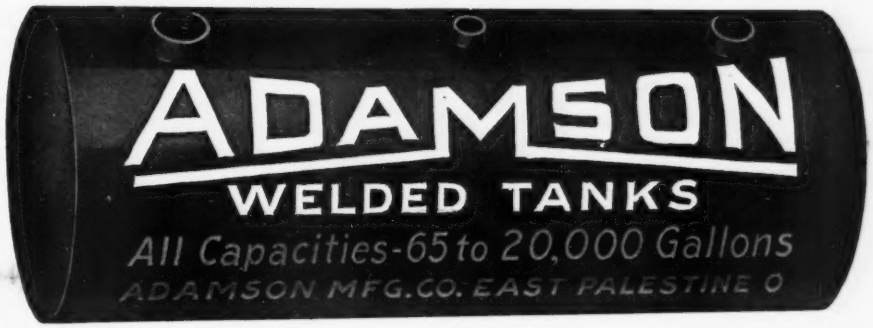
Skilled Supervision
Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER — ENGINE — CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans



Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in some states.)

	Prices June 30	Prices June 23	Prices June 16
U. S. MOTOR GASOLINE			
New York harbor	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
Portland district	*10.30	*10.30	*10.30
Boston district	*10.00	*10.00	*10.00
Providence district	*10.20	*10.20	*10.20
Philadelphia district	8.75 – 9.00	9.00	9.00
Baltimore district	8.75 – 9.00	9.00	9.00
Norfolk district	9.00	9.00	9.00
Charleston district	9.00	9.00	9.00
Savannah district	9.00	9.00	9.00
Jacksonville district	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	9.00 – 9.25	9.00 – 9.50	9.00 – 9.50
Philadelphia district	9.00	9.00	9.00
Baltimore district	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
‡DOMESTIC AVIATION GASOLINE			
New York harbor	12.00 –13.00	12.00 –13.00	12.00 –13.00
Philadelphia	12.00	12.00	12.00
Baltimore	12.00 –12.50	12.00 –12.50	12.00 –12.50
Boston	11.50 –13.00	11.50 –13.00	11.50 –13.00

‡Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167°F., and not less than 122°F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

WATER WHITE KEROSENE			
New York harbor	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Philadelphia district	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Baltimore district	7.00 – 7.25	7.00 – 7.25	7.25
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Boston district	4.75 – 5.00	4.75 – 5.25	4.75 – 5.25
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Boston district	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York Harbor	$1.15	$1.15	$1.15
Boston district	$1.15	$1.15	$1.15
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10

*Minimum delivered. †Nominal. **Delivered prices.

New York Export Market

(Lubricating oils are per gal. in bbls. F.a.s. New York)

	June 30	June 23	June 16
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	30.00 –33.00	35.00 –38.00	36.00 –39.00
600 D filtered	29.00 –31.00	32.00 –33.50	34.00 –35.00
600 Warren E filtered	25.00 –26.00	28.00 –30.00	30.50 –31.00
600 s.r. unfiltered	17.00 –19.00	17.00 –21.00	23.00 –25.00
650 s.r. unfiltered	23.50 –25.00	26.00 –28.00	27.00 –28.00
600 flash, s.r.	25.00 –27.00	29.50 –32.00	29.50 –32.00
630 flash, s.r.	35.00 –37.00	36.00 –38.50	36.00 –38.50
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	19.00 –21.00	19.00 –21.00	19.00 –21.00
250 vis. No. 6 color	17.50 –18.50	17.50 –18.50	17.50 –18.50
200 vis. No. 6 color	16.00 –17.00	16.00 –17.00	16.50 –17.50
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	22.00	22.00	22.00
180 vis. No. 3¼ color	17.50 –18.00	17.50 –18.00	17.50 –18.00
100 vis. No. 2¼ color	14.25 –15.50	14.25 –15.50	14.25 –15.50
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	30.00 –32.00	30.00 –32.00	30.00 –32.00
500 vis. No. 6½ color	27.50 –30.00	27.50 –30.00	27.50 –30.00
400 vis. No. 7¼ color	26.00 –29.00	26.00 –29.00	26.00 –29.00
300 vis. No. 6 color	22.00 –26.00	22.00 –26.00	22.00 –26.00
200 vis. No. 6 color	21.00 –23.50	21.00 –23.50	21.00 –23.50

Wax Markets

(Prices in cents per pound, A.S.T.M. tests) A.M.P. F.a.s. carload lots)

NEW YORK	June 30	June 23	June 16
124-126 Yellow crude scale	2.125– 2.25	2.25	2.25 – 2.375
122-124 White crude scale	2.125– 2.375	2.25 – 2.375	2.25 – 2.50
124-126 White crude scale	2.125– 2.375	2.25 – 2.375	2.25 – 2.50
123-125 Fully refined	3.25	3.25	3.25
125-127 Fully refined	3.375– 3.50	3.375– 3.50	3.375– 3.50
128-130 Fully refined	3.625	3.625	3.625
130-132 Fully refined	3.875– 4.125	3.875– 4.125	3.875– 4.125
133-135 Fully refined	4.50 – 4.625	4.50 – 4.625	4.625– 4.875
135-137 Fully refined	4.875	4.875	4.875– 5.00
NEW ORLEANS			
124-126 Yellow crude scale	2.125– 2.25	2.25	2.25 – 2.375
122-124 White crude scale	2.125– 2.25	2.25	2.25 – 2.50
124-126 White crude scale	2.125– 2.25	2.25	2.25 – 2.50
123-125 Fully refined	3.25	3.25	3.25
125-127 Fully refined	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
128-130 Fully refined	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
130-132 Fully refined	3.875	3.875	3.875
133-135 Fully refined	4.50	4.50	4.50 – 4.625

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted. Bulk gasoline and kerosene prices are posted quotations of the Export Petroleum Assoc., Inc., governing about 90% of the gasoline and kerosene shipped to foreign ports from the Gulf)

GASOLINE	Prices June 30	Prices June 23	Prices June 16
U. S. Motor	8.00	8.00	8.00
60-62, 400 e.p.	9.00	9.00	9.00
61-63, 390 e.p.	9.25	9.25	9.25
64 66, 375 e.p.	9.50	9.50	9.50
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.00	$2.00	$2.00
KEROSENE			
44 water white	7.00	7.00	7.00
41-43 prime white	6.00	6.00	6.00
Water white, cases (cargoes)	$1.75	$1.75	$1.75
Prime white, cases (cargoes)	$1.65	$1.65	$1.65
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
*30 plus translucent gas oil	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
Grade C bunker oil	$1.05	$1.05	$1.05
Grade C bunker oil, cargoes	$0.75 –$0.85	$0.75 –$0.85	$0.75 –$0.85
MEXICAN CRUDE AND BUNKER OILS (f. o. b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.55 –$0.60	$0.60 –$0.65	$0.68 –$0.70
Grade C bunker oil for bunkering purposes, taxes paid	$1.00	$1.00	$1.00

*Less than ½ of 1% sulphur.

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F. cold test 0 Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	5.75 – 6.125	5.75 – 6.125	5.75 – 6.125
200 vis. No. 3 unfiltered pale	8.00 – 8.75	8.00 – 8.75	8.00 – 8.75
300 vis. No. 3 unfiltered pale	8.875– 9.50	8.875– 9.50	8.875– 9.50
500 vis. No. 3½ unfiltered pale	10.25 –11.25	10.25 –11.25	10.25 –11.25
750 vis. No. 4 unfiltered pale	12.50 –13.25	12.50 –13.25	12.50 –13.25
1200 vis. No. 5 unfiltered pale	16.00 –18.00	16.00 –18.00	16.00 –18.00
200 vis. No. 5-6 red oil	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
300 vis. No. 5-6 red oil	8.375– 8.75	8.375– 8.75	8.375– 8.75
500 vis. No. 5-6 red oil	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
750 vis. No. 5-6 red oil	11.50	11.50	11.50
1200 vis. No. 5-6 red oil	15.00 –15.50	15.00 –15.50	15.00 –15.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only.)

	June 30	June 23	June 16
U. S. Motor gasoline	7.25 – 7.50	7.25 – 7.50	7.50
41-43 w.w. kerosene	5.375– 5.625	5.375– 5.625	5.625– 5.875
*26-32 translucent gas oil	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00

*Less than ½ of 1% sulphur.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	June 30	June 23	June 16
Gasoline, U. S. Motor, 53-55 Gravity	6.50 – 7.50	6.50 – 7.50	6.50 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.25 – 8.25	7.25 – 8.25	7.25 – 8.25
Gasoline, 400 e.p. blends	8.25 – 9.25	8.25 – 9.25	8.25 – 9.25
Gas Oil, 30-34, per bbl.	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00
Diesel Oil, 27 plus, per bbl.	$0.75 –$0.90	$0.75 –$0.90	$0.75 –$0.90
Bunker oil, 14-18, per bbl.	$0.65 –$0.90	$0.65 –$0.90	$0.65 –$0.90
Fuel oil, 14-18 per bbl.	$0.575–$0.85	$0.575–$0.85	$0.575–$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	4.50 – 5.50	4.50 – 5.50	4.50 – 5.50
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Gasoline, 400 e.p.	$1.85 –$2.00	$1.85 –$2.00	$1.85 –$2.00
Kerosene, 38-40 w.w., 125-150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Note: Above Pacific Export market prices for gasoline and kerosene in cargo lots apply only on goods for coastwise shipment. Gasoline and kerosene prices for shipment to foreign ports are determined as follows: Difference in freight between U. S. Gulf to European Continent and California to European Continent —this difference plus 0.125c for handling, deducted from prices posted at U. S. Gulf by the Export Petroleum Assoc., Inc., which are above prices.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	June 30 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	35–37	50
Gulf to U. K. or Continental ports*	25–26	20
North Atlantic to U. K. or Continental ports*	20–21	16/6
Calif. to North Atlantic ports (not E. of N. Y.)	$0.70	$0.90
Gulf to North Atlantic ports (not E. of N. Y.)**	27.5	33–35

*Continental ports in the range between Bordeaux and Hamburg, both inclusive. **Venezuela loading same rate. For Tampico 3c to 4c per bbl. additional.

APCO

"More POWER to you". . . . .

APCO HI-COMPRESSION GASOLINE combines high test and "anti-knock" virtues with reasonable premium cost. After exhaustive tests, we now offer the new APCO—made at Cyril, Oklahoma—with high gravity, low endpoint, and extra high benzol equivalent. APCO is a high test, "anti-knock" motor fuel, available in either red or water-white. APCO means "more power to you."

Write immediately for full specifications and details of our marginal contract over 1930 and our sales-building merchandising plan. It means more business—more profits.

OUR OTHER REFINED PRODUCTS

We offer APCO SUPER KEROSENE—with high gravity, low endpoint, low flash, water-white, excellent burning test—the all-purpose product. Protect yourself now against your spring kerosene requirements.

We manufacture a complete line of industrial naphthas, including the nationally known STOD-SOL cleaning solvent.

We provide a complete family of petroleum products, backed by our service guarantee and marginal protection. In making 1930 plans, you owe it to your business to get in touch with us.

ANDERSON-PRICHARD OIL CORPORATION

PRODUCERS REFINERS

OKLAHOMA CITY, OKLA.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect June 30, 1930, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Atlantic City, N. J.	2	16.5	18.5	13.5
Newark, N. J.	2	15.5	17.5	12.5
Annapolis	4	18	20	13
Baltimore, Md.	4	17.2	19.2	10.5
Cumberland, Md.	4	19	21	14
Washington, D. C.	2	15.7	17.7	12.7
Danville, Va.	5	19.8	21.8	13.8
Norfolk, Va.	5	18.3	20.3	12
Richmond, Va.	5	18.7	20.7	12.7
Roanoke, Va.	5	20	20	14
Petersburg, Va.	5	19.3	21.3	13.3
Charleston, W. Va.	4	18.5	20.5	12.5
Keyser, W. Va.	4	19.1	21.1	14.1
Parkersburg, W. Va.	4	17.2	19.2	11.2
Wheeling, W. Va.	4	18.4	20.4	12.4
Charlotte, N. C.	5	20.3	22.3	14.3
Hickory, N. C.	5	20.6	22.6	14.6
Mt. Airy, N. C.	5	20.5	22.5	14.5
Salisbury, N. C.	5	20.5	22.5	14.5
Charleston, S. C.	6	19.3	21.3	12.3
Columbia, S. C.	6	21.2	23.2	14.2

Note: 2c per gallon discount off t.w. price of gasoline to dealers and commercial consumers thru S. O. New Jersey territory.

CONTINENTAL OIL

Denver, Colo.	12	4	16	19	15.5
Pueblo, Colo.	13	4	17	20	15.5
Grand Junc., Colo.	17.5	4	21.5	24.5	19
Casper, Wyo.	15	4	19	22	14
Cheyenne, Wyo.	16.5	4	20.5	23.5	15.5
Butte, Mont.	19.5	5	24.5	27.5	20
Helena, Mont.	19.5	5	24.5	27.5	20
Salt Lake City, Utah.	16.5	3½	20	23	17
Boise, Ida.	16.5	5	21.5	24.5	19
Twin Falls, Ida.	18.5	5	23.5	27.5	19
Albuquerque, N. M.	11	5	16	20	15

S. O. CALIFORNIA

	Gasoline Tax	Gasoline Net T.W.	Gasoline Posted Wholesale T.W.	Oil T.W.
Phoenix, Ariz.	4	17	18	20
Los Angeles, Cal.	3	12.5	18.5	15.5
Fresno, Cal.	3	13	19	17
San Francisco, Cal.	3	13	19	15.5
Reno, Nev.	4	18	24	19
Portland, Ore.	4	14.5	20.5	16.5
Seattle, Wash.	3	13.5	19.5	16.5
Spokane, Wash.	3	17.5	23.5	20.5
Tacoma, Wash.	3	13.5	19.5	16.5

Note: 6c per gal. discount to dealers off posted wholesale price of gasoline to customers taking tank truck delivery, thru S. O. California territory except 1c discount at Phoenix to dealers only. This discount determines net t.w. price.

S. O. LOUISIANA

	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Little Rock, Ark.	5	17	17	13
Alexandria, La.	4	17	17	†14
Baton Rouge, La.	4	16	16	†14
Lake Charles, La.	*5	16	16	†14
New Orleans, La.	9.5*5	14.5	14.5	†12
Shreveport, La.	4	16	18	†14
Lafayette, La.	*5	18	18	†14
Bristol, Tenn.	5	20	22	14
Chattanooga, Tenn.	5	20	22	13
Knoxville, Tenn.	5	20	22	16
Nashville, Tenn.	5	19	21	16
Memphis, Tenn.	5	18	20	12.5

Note: 2c per gallon discount off t.w. price of gasoline to dealers thru S. O. Louisiana territory.

*Lake Charles, New Orleans and Lafayette gasoline tax includes 4c state tax and 1c parish tax. New Orleans kerosene price includes 1c parish tax in addition to 1c state tax.

†Kerosene price in Louisiana includes 1c state tax.

S. O. KENTUCKY

Ashland, Ky.	5	19	21	15
Catlettsburg, Ky.	5	20	21	15
Lexington, Ky.	5	19	20	14.5
Louisville, Ky.	5	20	22	13
Covington, Ky.	5	21	22	14.5
Clarksdale, Miss.	5	19	21	12.5
Gulfport, Miss.††	5	21.5	23.5	13
Jackson, Miss.	5	20	22	13
Natchez, Miss.	5	19.5	21.5	13
Vicksburg, Miss.	5	19.5	21.5	13
Birmingham, Ala.‡‡	4	20	22	14.5
Mobile, Ala.‡	4	18	18	13.5
Montgomery, Ala.*	4	21	23	15
Atlanta, Ga.	6	21	23	†15.5
Augusta, Ga.	6	20	22	†15.5
Macon, Ga.	6	22	24	†14
Savannah, Ga.	6	21	23	†14
Jacksonville, Fla.	6	21	23	14
Miami, Fla.	6	22	24	14
Tampa, Fla.	6	21	23	13
Pensacola, Fla.**	6	19	21	13.5

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

‡Mobile gasoline prices include 1c city tax.

‡‡Birmingham gasoline prices include 1c city tax.

S. O. NEBRASKA

Omaha, Neb.	4	19.25	21.25	13.25
McCook	4	16.75	20.75	22.75	14.75
Norfolk	4	15.75	19.75	21.75	13.75
North Platte	4	16.75	20.75	22.75	14.50
Scottsbluff	4	16.75	20.75	22.75	14.25

Note: Discounts: 1c per gal. off tank wagon price of gasoline for 1,000 gallon dumps per month to consumers taking tank wagon delivery only.

S. O. INDIANA

Chicago, Ill.	3	18	19	13
Decatur, Ill.	3	18.2	19.2	13.1
E. St. Louis, Ill.	3	17.4	18.4	12.2
Joliet, Ill.	3	18.4	19.4	13.3
Peoria, Ill.	3	18.2	19.2	13.1
Quincy, Ill.	3	18.2	19.2	12.9
Indianapolis, Ind.	4	19.2	20.2	14.2
Evansville, Ind.	4	19	20	14
South Bend, Ind.	4	19.4	20.4	14.4
Detroit, Mich.	3	18.8	19.8	14.7
Grand Rapids, Mich.	3	18.7	19.7	14.6
Saginaw, Mich.	3	18.9	19.9	14.8
Green Bay, Wisc.	2	17.6	18.6	13.4
Madison, Wisc.	2	17.3	18.3	13.1
Milwaukee, Wisc.	2	17.1	18.1	12.9
La Cross, Wisc.	2	18.2	19.2	14
Minneapolis, Minn.	3	19.2	20.2	13.9
Duluth, Minn.	3	19.5	20.5	13.9
Mankato, Minn.	3	19.1	20.1	13.7
Des Moines, Ia.	3	18.5	19.5	13.3
Davenport, Ia.	3	18.5	19.5	13.3
Sioux City, Ia.	3	18.1	19.1	12.9
Mason City, Ia.	3	18.5	19.5	13.3
St. Louis, Mo.	2	16.9	17.9	12.3
Kansas City, Mo.	†2	17.9	18.9	11.6
St. Joseph, Mo.	†2	17.5	18.5	12.2
Fargo, N. D.	3	20.9	21.9	15.9
Grand Forks, N. D.	3	21.2	22.2	16.2
Minot, N. D.	3	20.9	21.9	15.9
Pierre, S. D.	4	20	21	14.4
Huron, S. D.	4	20.3	21.3	14.7
Wichita, Kans.	3	16.8	14.8	11.8
Bartlesville, Okla.	4	17.5	20.5	11.5

S. O. Indiana's quantity contract price schedule thru territory (except in Chicago and Detroit, which see below) on tank truck deliveries of gasoline, figured from the service station price is 2c for 500 gal. or more a month; 2½c for 2,000 gals. or more a month; 3c for 6,000 gals. or more a month; and 4½c for 75,000 gals. or more a month.

In Chicago and vicinity, these discounts apply: Over 500 gals. per month, 4c per gal. off service station price; over 1,000 gals. per month, 5c per gal. off service station price.

In Detroit, dealers and consumers signing contract for all gasoline for one year, get 4c per gal. off s.s. price. Non-contracted accounts get 3c off s.s. price. Those buying 75,000 gals. or more a month, 4½c per gal. off s.s. price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Ohio State wide	4	20	21	†14
Franklin, (except Columbus) Hancock, Muskingum, Perry, and Preble Counties:	4	19	19	14

Note: Discount to dealers and commercial accounts generally thru Ohio is 2c per gal. off t.w. price with some exceptions. In counties where prices are below normal, discount is 3c per gal. off t.w. price.

†Kerosene t.w. price in Paulding County is 12c; in Allen and Van Wert Counties, 13c.

MAGNOLIA PETROLEUM

Muskogee, Okla.	4	16	19	9
Oklahoma City	4	15	18	10
Tulsa, Okla.	4	16	20	10
Fort Smith, Ark.†	†4	17	18	12
Little Rock, Ark.	5	18	19	13
Texarkana, Ark.*	4	14	15	12
Dallas, Tex.	4	14	18	12
Fort Worth, Tex.	4	14	17	11
Houston, Tex.	4	15	19	11
San Antonio, Tex.	4	14	18	11
El Paso, Tex.	4	16	20	13

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	2	16.3	18.3	11.3
Borough of Richmond	2	16.7	18.7	11.7
Albany, N. Y.	2	17.6	19.6	12.6
Buffalo, N. Y.	2	16.8	18.8	11.8
Rochester, N. Y.	2	17	19	12
Syracuse, N. Y.	2	17.8	19.8	12.8
Boston, Mass.	2	16.5	18.5	11.5
Augusta, Me.	4	19.8	21.8	12.8
Manchester, N. H.	4	19.4	21.4	12.4

Latest Changes in Tank Wagon Prices

Gasoline

S. O. Ohio—T.w. up 1c, s.s. 2c, Athens and Jackson counties, to statewide prices of 20c and 21c, **June 28.**

S. O. New Jersey—T.w. and s.s. cut 0.2c, Hickory and Salisbury, to 20.6 and 22.6c, and 20:5c and 22.5c, respectively, **June 23.**

S.s only cut 1c, Roanoke, to 20c, same as t.w., **June 25.**

S. O. Louisiana—T.w. cut 1c, s.s. 2c, Little Rock, both to 17c, **June 20.**

Continental Oil—T.w. and s.s. cut 1.5c, Grand Junction, to 21.5c and 24.5c, **June 25.**

S. O. California—A change in the method of publishing the S. O. California gasoline prices has been made in this issue, to correspond to the method of posting by the Standard itself. The state tax is shown in the first column, then the net t.w. price and posted wholesale t.w. prices, both including the tax. No. service station prices can be shown in this territory, due to the fact that the Standard does not operate stations.

Kerosene

S. O. New Jersey—Kerosene cut 0.2c, Hickory and Salisbury, to 14.6c t.w. and 14.5c t.w., **June 23.**

S. O. Ohio—Kerosene cut 1c, Allen and Van Wert counties, both to 13c t.w., **June 28.**

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Florida, 1/8c on both; Illinois, 3/100c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/100c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa 7/100c; Michigan 1/5c to 4/5c per gal.

Tank Wagon, Service Station Markets for Gasoline and Kerosene
Prices in Effect June 30, 1930

S. O. NEW YORK

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Burlington, Vt.	16.3	4	20.3	22.3	13.3
New Haven, Conn.	15.6	2	17.6	19.6	12.6
Providence, R. I.	14.7	2	16.7	18.7	11.7

Note: S. O. New York allows 3c off t.w. price to dealers in New York City, and 2c off t.w. price thru rest of territory.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	22	13
Philadelphia, Pa.	16	*	16	22	13
Allentown, Pa.	16	*	16	22	13
Erie, Pa.	15	*	15	19	13
Scranton, Pa.	16	*	16	22	13
Altoona, Pa.	16	*	16	22	13
Dover, Del.	16	3	19	21	13
Wilmington, Del.	16	3	19	21	13
Boston, Mass.	14.5	2	16.5	18.5	11.5
Springfield, Mass.	15.5	2	17.5	19.5	12.5
Worcester, Mass.	15.3	2	17.3	19.3	12.3
Fall River, Mass.	14.1	2	16.1	17.1	12.1
Providence, R. I.	14.7	2	16.7	18.7	11.7
Hartford, Conn.	15.5	2	17.5	19.5	12.5
New Haven, Conn.	15.6	2	17.6	19.6	12.6
Atlantic City, N. J.	14.5	2	16.5	18.5	13.5
Camden, N. J.	13.6	2	15.6	17.6	12.6
Trenton, N. J.	14	2	16	18	13
Annapolis, Md.	14	4	18	20	13
Baltimore, Md.	13.2	4	17.2	19.2	10.5
Hagerstown, Md.	14.7	4	18.7	20.7	13.7
Richmond, Va.	13.7	5	18.7	20.7	12.7
Wilmington, N. C.	13.4	5	18.4	20.4	12.4
Brunswick, Ga.	15	6	21	23	**15
Jacksonville, Fla.	15	6	21	23	14

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers; discount to commercial accounts under contract for one year in accordance with Code of Ethics. Erie has dealer discount of 4c off t.w. price, effective May 28.

*4-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Sprits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.7	17
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	**20.7	**22.2	**24
St. Louis	13.9	17.1	18.9
New York		16	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)

New York harbor	11.00
Philadelphia district	11.00
Providence	11.50

Tank Wagon or Steel Barrels

New York City	18
Syracuse	17–18
Rochester	18
Buffalo	17–18
Providence	19
Boston	19
Bridgeport	16–18
Newark	18
Philadelphia	16–17
Baltimore	18

Note: 2c off above t.w. prices to large buyers in some instances.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	19.5	5	24.5	28	20.5
Ottawa	19.5	5	24.5	28	20.5
North Bay	22.5	5	27.5	33	27
Ft. William	22.5	5	27.5	31	22.5
Border Cities, including Windsor	18.5	5	23.5	27	19.5
MANITOBA					
Winnipeg	21	5	26	30	21.5
SASKATCHEWAN					
Regina	26	5	31	35	26
ALBERTA					
Edmonton	27.5	5	32.5	36	27.5
Calgary	23.5	5	28.5	32	23.5
BRITISH COLUMBIA					
Vancouver	23	5	28	32	24
QUEBEC					
Montreal	20.5	5	25.5	29	21.5
Quebec City	21.5	5	26.5	30	22.5
Three Rivers	21.5	5	26.5	30	22.5
NEW BRUNSWICK					
St. John	20	5	25	29	22
Moncton	20	5	25	29	22
NOVA SCOTIA					
Halifax	20	5	25	29	22
PRINCE EDWARD ISLAND					
Charlottetown	20	5	25	29	22

Note: In districts surrounding these points 1c additional is added to city price.

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories and showing state and municipal taxes:

S. O. NEW JERSEY

Prices in Effect June 30, 1930

	T.W.	Tax	Total
Newark, N. J.	17.4	*	17.4
Baltimore, Md.	16.2	4	20.2
Washington, D. C.†	19.5	2	21.5

*New Jersey road tax of 2c does not apply on aviation gasoline, exemption being claimed at time of purchase.

†Price at Washington is on Stanavo Aviation gasoline which sells at a 2c premium over "Standard" aviation gasoline.

S. O. OHIO

Thru Ohio	17	4	21

Discounts given by S. O. Ohio: For airport delivery only: 2,000 gals. or over per month, 1c per gal.; 6,000 gals. or over per month, 2c; 12,000 gals. and over per month, 3c.

S. O. INDIANA

Chicago	17	3	20
Indianapolis, Ind.	17.2	4	21.2
Detroit, Mich.	17.8	3	20.8
Milwaukee, Wis.	17.1	2	19.1
Minneapolis, Minn.	18.2	3	21.2
St. Louis, Mo.	16.4	2½	18.9
Kansas City, Mo.	16.9	3	19.9
Fargo, N. D.	19.9	3	22.9
Huron, S. D.	18.3	4	22.3
Wichita, Kan.	15.8	3	18.8

In S. O. Indiana territory, buyer pays state and city taxes on aviation gasoline, and if he can get a refund from the state, he does so. St. Louis tax of 2½c includes ½c city tax and Kansas City tax includes 1c city tax.

S. O. LOUISIANA

New Orleans, La.	16	5	21
Nashville, Tenn.	18	5	23
Memphis, Tenn.	17	5	22

2c per gal. discount off above t.w. prices to dealers and commercial consumers.

S. O. NEBRASKA

Omaha	18.25	4	22.25

2c per gal. refund to resellers.

CONTINENTAL OIL CO.

*Denver, Col.	15	4	19
Cheyenne, Wyo.	19.5	4	23.5
Helena, Mont.	25.5	5	30.5
Salt Lake City, Utah	19.5	3.5	23
†Albuquerque, N. M.	19	5	24
Boise, Ida.	19.5	5	24.5

*1c per gal. discount to dealers at Denver. †2c per gal. discount to dealers at Albuquerque.

S. O. CALIFORNIA

Phoenix, Ariz.	17	4	21
Los Angeles, Cal.	19.5	3	22.5
San Francisco, Cal.	20	3	23
Reno, Nev.	24	4	28
Portland, Ore.	19.5	4	23.5
Seattle, Wash.	19.5	3	22.5
Spokane, Wash.	23.5	3	26.5

4c per gal. discount off t.w. price of gasoline to customers taking tank truck delivery, through S. O. California territory, except 1c discount at Phoenix.

Spencer Petroleum Has Golf Tournament

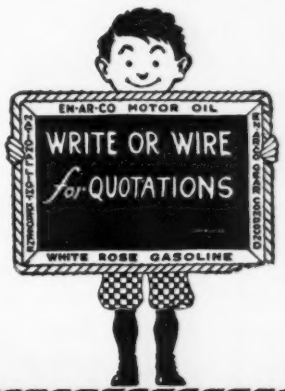
CHICAGO, June 28.—H. Nilles, shooting a 79, won the annual golf tournament sponsored by the Spencer Petroleum Co., Chicago marketers, held June 24 at the Medinah Country club. Mrs. Howard M. Johnson won first prize in the ladies' bridge tournament. Other golf prize winners were: William Forbes; A. A. Sherby; John Lallathin; Joseph B. Mudd; Arthur Stoli; Frank Kutten; J. F. Houdek; Harry Dolan; Charles Jauer; and P. Jordan, who won the "booby" prize. Approximately 110 were in attendance for the golf, bridge, luncheon and dinner.

PASS YOUR
DYEING WORRIES
ON TO US

Pass that worry on to us when you receive in your morning mail five orders for cars of colored gasoline—each dyed a different color.

Write us for our simple plan of dyeing gasoline at the bulk plants on arrival of your cars.

DYESTUFFS & CHEMICALS, INCORPORATED
11th & Monroe Sts., St. Louis, Mo.



En-ar-co
MOTOR OIL
White Rose
GASOLINE

YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

The National Refining Co.
Cleveland, Ohio

Over 200 Petroleum Products—each a leader in its field—each manufactured to the highest standards—to meet the needs of *every* industry in a superior way.

Build your business on our reputation for satisfactory petroleum products

Empire Oil & Refining Company

Subsidiary Cities Service Co.

GENERAL SALES OFFICES—TULSA, OKLA.

NEW YORK PHILADELPHIA CLEVELAND CHICAGO ST. PAUL
KANSAS CITY ST. LOUIS FT. WORTH TORONTO

Crude Oil Prices (in Effect June 30, 1930)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

(All Penna. Grade Crude Effective June 17, 1930)

Bradford crude in Bradford Transit Co. and New York Transit lines	$2.25
Bradford—Allegheny district (posted by Tide Water Pipe Co., Ltd.)	2.25
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	*2.20
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.15
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.05
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	1.90
Wayne district crude in Cumberland lines (West Virginia) (Effective Apr. 11, 1930)	1.34
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective May 2, 1930)	1.75
Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective Apr. 11, 1930)	1.47
Somerset Oil in Eureka Pipe Lines (Effective Apr. 11, 1930)	1.31
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 29, 1929)	$0.60

*Oil run prior to July 1, 1929 is $2.15 per bbl.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines (Effective Apr. 18, 1930)	$1.55

MICHIGAN

(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, which see below.

(Posted by Pure Oil Co.)

Midland, Midland County (June 5, 1930)	$1.55

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Wooster	$1.70	Princeton	$1.65
Lima	1.55	Illinois	1.65
Waterloo	1.20	Plymouth	1.23
Indiana	1.32	West Kentucky	1.55

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$1.95
Oil Springs	2.02

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma and Kansas)

Effective Apr. 10, 1930

Below 25	$0.75	35-35.9	$1.255
25-25.9	0.80	36-36.9	1.29
26-26.9	0.85	37-37.9	1.325
27-27.9	0.90	38-38.9	1.36
28-28.9	0.95	39-39.9	1.395
29-29.9	1.00	40-40.9	1.43
30-30.9	1.05	41-41.9	1.465
31-31.9	1.10	42-42.9	1.50
32-32.9	1.15	43-43.9	1.535
33-33.9	1.185	44 and above	1.57
34-34.9	1.22		

(In North Texas: Ranger, Wichita Falls, Mexia)

Effective Apr. 10, 1930

Below 25	$0.72	30-30.9	$1.02
25-25.9	0.77	31-31.9	1.07
26-26.9	0.82	32-32.9	1.12
27-27.9	0.87	33-33.9	1.17
28-28.9	0.92	34-34.9	1.22
29-29.9	0.97	35-35.9	1.255
36-36.9	$1.29	41-41.9	$1.465
37-37.9	1.325	42-42.9	1.50
38-38.9	1.36	43-43.9	1.535
39-39.9	1.395	44 and above	1.57
40-40.9	1.43		

The Texas Co., same schedule in Oklahoma as Prairie in Oklahoma; and in North Texas, North Central Texas and Central Texas same as Prairie and Humble in North Texas, effective Apr. 10.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

Humble's prices in above fields same as Prairie's prices in North Texas, effective Apr. 10, which see.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Below 26	$0.70	28-28.9	$0.88
26-26.9	0.76	29-29.9	0.95
27-27.9	0.82	30-30.9	1.02

Rest of Magnolia schedule up to 44 and above same as Prairie in Oklahoma and Kansas.

Apr. 10, 1930, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in Winkler, Crane, etc., which see

Corsicana heavy	$0.80
Luling	0.85
Mirando	0.85
Darst Creek, 60° F. gravity	1.15

Carter Oil Co.

(Oklahoma and Kansas)

Apr. 10, 1930, same schedule as Prairie, which see.

PANHANDLE TEXAS

Humble Oil & Refining Co.

Effective Apr. 10, 1930

Hutchinson and Carson Counties:

Below 32	$0.775	38-38.9	$1.065
32-32.9	0.825	39-39.9	1.10
33-33.9	0.875	40-40.9	1.135
34-34.9	0.925	41-41.9	1.17
35-35.9	0.96	42-42.9	1.205
36-36.9	0.995	43-43.9	1.24
37-37.9	1.03	44 and above	1.275

Gray County:

Below 29	$0.755	37-37.9	$1.16
29-29.9	0.805	38-38.9	1.195
30-30.9	0.855	39-39.9	1.23
31-31.9	0.905	40-40.9	1.265
32-32.9	0.955	41-41.9	1.30
33-33.9	1.005	42-42.9	1.335
34-34.9	1.055	43-43.9	1.37
35-35.9	1.09	44 and above	1.405
36-36.9	1.125		

Wheeler County: Posted by Magnolia Pet. Co. Humble withdrew Wheeler county postings Apr. 10.

Below 30	$0.755	37-37.9	$1.11
30-30.9	0.805	38-38.9	1.145
31-31.9	0.855	39-39.9	1.18
32-32.9	0.905	40-40.9	1.215
33-33.9	0.955	41-41.9	1.25
34-34.9	1.005	42-42.9	1.285
35-35.9	1.04	43-43.9	1.32
36-36.9	1.075	44 and above	1.355

Above prices met by The Texas Co. and Magnolia on Apr. 10.

WEST TEXAS AND NEW MEXICO

Humble Oil & Refining Co.

Effective Apr. 10, 1930

Winkler, Crane, Upton, Crockett, Ector, and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.65	31-31.9	$0.86
25-25.9	0.68	32-32.9	0.89
26-26.9	0.71	33-33.9	0.92
27-27.9	0.74	34-34.9	0.95
28-28.9	0.77	35-35.9	0.98
29-29.9	0.80	36 and above	1.01
30-30.9	0.83		

Howard and Glasscock counties:

Effective Apr. 10, 1930

Below 25	$0.65	31-31.9	$0.82
25-25.9	0.68	32-32.9	0.84
26-26.9	0.71	33-33.9	0.86
27-27.9	0.74	34-34.9	0.88
28-28.9	0.76	35-35.9	0.90
29-29.9	0.78	36 and above	0.92
30-30.9	0.80		

Apr. 10, 1930, The Texas Co. posted same prices in Crane, Upton, Winkler and Lea counties as Humble.

SOUTH AND SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective Apr. 10, 1930

Mirando	$0.85
Salt Flat	1.15
Darst Creek	1.15
Pettus, Bee County	1.40

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto, and Sabine.

Effective Apr. 11, 1930

Below 28	$0.87	36-36.9	$1.29
28-28.9	0.92	37-37.9	1.325
29-29.9	0.97	38-38.9	1.36
30-30.9	1.02	39-39.9	1.395
31-31.9	1.07	40-40.9	1.43
32-32.9	1.12	41-41.9	1.465
33-33.9	1.17	42-42.9	1.50
34-34.9	1.22	43-43.9	1.535
35-35.9	1.255	44 and above	1.57

Cotton Valley, Sarepta and Carterville below 36 gravity, $0.85. Rest of schedule same as Caddo, Homer, etc.

Smackover, below 24	$0.90
do 24 and above	1.05
Bellevue (Apr. 11, 1930)	1.15
*Urania, La. (Apr. 11, 1930)	0.95
†East El Dorado (Calion) (Apr. 11, 1930)	0.90

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

Apr. 10, 1930, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.67; 25-25.9, $0.72; 26-26.9, $0.77; 27-27.9, $0.82.

Apr. 11, Magnolia met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective Apr. 11, 1930

Below 28	$0.76	30-30.9	$0.91
28-28.9	0.81	31-31.9	0.96
29-29.9	0.86	32 and above	1.01

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective Apr 10, 1930

Grades A	$1.15	34-34.9	$1.30
Grades B:		35-35.9	1.33
Below 25	1.00	36-36.9	1.36
25-25.9	1.03	37-37.9	1.39
26-26.9	1.06	38-38.9	1.42
27-27.9	1.09	39-39.9	1.44
28-28.9	1.12	40-40.9	1.46
29-29.9	1.15	41-41.9	1.48
30-30.9	1.18	42-42.9	1.50
31-31.9	1.21	43-43.9	1.52
32-32.9	1.24	44 and above	1.54
33-33.9	1.27		

Refugio county (rest of schedule, same as Grades B, which see above).

Below 25	$0.85
25-25.9	1.03

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Humble, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Specifications for Grade "A" crude: Gravity: 25° and below, at 60° F; Viscosity: not less than 100 seconds at 100° F Saybolt.

Sulfur: not over .4%.

Grade "B" includes all Coastal crude which does not meet the test for "A" grades.

Water Wastage Report Due in November

NEW YORK, June 26.—A report on wastage at refineries of water that contains oil will be ready for presentation at the November convention of the American Petroleum Institute in Chicago. The report is nearing completion by the committee on wastage of the refining division of the institute.

Three other reports on refinery wastage are contemplated by this committee on water containing acids, vapors, and solids.

Informal meetings of New York district members of the refinery committee on fire prevention and the marketing committee on wastage were held a few days ago with D. V. Stroop at the institute's headquarters. Their respective problems were discussed but no action was taken, Mr. Stroop said.

Crude Price Changes

FINDLAY, O.—On June 26 Ohio Oil Co. reduced Wooster crude 10 cents, and Lima and Indiana 15 cents. New prices are: Wooster, $1.70; Lima, $1.55 and Indiana, $1.32 per barrel at wells.

* * *

TORONTO.—On June 28 Imperial Oil Refineries, Ltd., reduced Canadian crude 15 cents per barrel, making new prices of Petrolia crude $1.95 and Oil Springs, $2.02 per barrel.

Where you and industry are identical—

Every successful business is constantly on the lookout to improve its machinery and methods.

You, as an individual, in order to progress must devote a reasonable part of your time to ***improving your mind.***

Good books on various phases of the oil industry will improve your mind, and pay you big dividends.

OIL PRICE HANDBOOKS

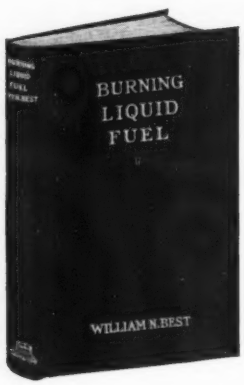
Have you a complete record of REFINERY prices; TANK WAGON markets; EXPORT prices; CRUDE prices—

For quick reference and comparison with today's prices?

The OIL PRICE HANDBOOK is the only complete record of oil markets for a whole year, compiled in one handy volume for quick reference. Cloth bound—marginal index—9″ x 6″—146 pages.

Oil Price Handbook for 1929 .....$7.50
Oil Price Handbook for 1928 .....$5
Oil Price Handbook for 1927 .....$5
Oil Price Handbook for 1926 .....$5
Oil Price Handbook for 1925 }
Oil Price Handbook for 1924 } $6

Send for these OIL PRICE HANDBOOKS *now*, before they are all gone.



BURNING LIQUID FUEL is a practical treatise on perfect combustion of oils and tars; gives analyses, calorific values and heating temperatures of various gravities; information on design and proper installation of equipment for all classes of service.

Illustrations of equipment shown were selected from 42,000 installations in successful operation. They show you interior construction and give the most modern application of liquid fuel to obtain perfect combustion.

Cut your power costs by sending for a copy of BURNING LIQUID FUEL today.

340 pages—Cloth $4.

OIL and GAS FORMS

by Benoit

Cyclopedia of Oil and Gas Forms by R. L. Benoit, of the Louisiana Bar, contains all forms used from the original acquisition of leasehold estates for exploration and development to the retail marketing of the refined product.

They are the latest forms which have been drafted to fulfill interpretations and definitions of courts of last resort, including:

Leases; Assignments; Special and General leases and assignment stipulations; Corrections; Amendments; Ratifications; Extensions; Rentals; Releases; Mineral and Royalty sales and contracts; Rights of Way; Escrow agreements and options; Oil and gas and lease purchase and sales contracts; Bonds, Mortgages; Surface contracts; Mineral reservations; Title; Office; Injury and compensation forms; Powers of attorney; Transfer and division orders; Well drilling contracts; and other forms.

CYCLOPEDIA of OIL and GAS FORMS is valuable in both office and field work in all oil producing states.

634 pages **Price $10.**

Cut out and mail

NATIONAL PETROLEUM NEWS
Room 707, 1213 West 3rd St., Cleveland, Ohio.

I want the books checked below. Enclosed is check or money order for $_____
(Add 15 cents for foreign postage)

- ☐ *Oil Price Handbook*
- ☐ *Burning Liquid Fuel—$4*
- ☐ *Oil and Gas Forms —$10*

NAME _____

Address _____

_____

_____

Crude Oil Prices (in Effect June 30, 1930)

(Prices are per barrel at the well)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective Apr. 10, 1930

Grades A.....$1.15 *Grades B.....$1.00

*Grades B include all heavy crudes which do not meet tests for Grades A or for Grades B light crude. Prices for Grades B light crude are the same as Humble's, which see.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective Apr. 10, 1930)

‡Salt Creek 29–29.9	$1.00
" " 30–30.9	1.05
" " 31–31.9	1.10
" " 32–32.9	1.15
" " 33–33.9	1.185
" " 34–34.9	1.22
" " 35–35.9	1.255
" " 36–36.9	1.29
" " 37 and above	1.325
Elk Basin	1.55
Grass Creek light	$1.55
Big Muddy	1.38
Lance Creek	1.63
Rock Creek	1.35
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.63
‡Cat Creek, Mont	1.55
Sunburst, Mont	1.65
‡Hogback, N. Mex	1.40
Artesia, N. Mex	1.05

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

Standard Oil Co. of California

(Effective March 11, 1930)

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach Inglewood* Olinda-Brea Canon*	Athens Rosecrans Dominguez	Elwood Terrace	Torrance Richfield	Whittier La Habra	Montebello	Coyote	Santa Fe Springs (Effective June 14, 1930)	Newhall McKittrick Kern River	Midway-Sunset Elk Hills Buena Vista Hills Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Orcutt (Santa Maria) (Union Oil Co.)	Santa Paula (Ventura) (Union Oil Co.)	Ventura Avenue (Associated Oil Co.)
14–14.9**	$0.70	....	....	$0.70	$0.70	$0.70	$0.70	....	$0.55	$0.55	$0.55	$0.55	....	$0.55	$0.70	$0.70
15–15.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	....	.55	.70	.70
16–16.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	$1.65	.55	.70	.70
17–17.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	for	.55	.70	.70
18–18.9	.76	....		.76	.76	.71	.76	....	.55	.62	.62	.62	55°	.65	.75	.76
19–19.9	.82	....		.82	.82	.77	.82	....	.55	.70	.70	.70	gravity	.70	.80	.82
20–20.9	.88	....		.88	.87	.83	.87	....	....	.78	.78	.78	and	.78	.85	.88
21–21.9	.94	....	F. o. b. ship	.94	.93	.90	.93	$0.92	....	.86	.86	.86	over	.90	.90	.91
22–22.9	1.00	....	....	1.00	.98	.97	.98	.95	....	.94	.94	.94	....	.95	.97	.94
23–23.9	1.07	....	....	1.07	....	1.05	1.04	1.01	....	1.02	1.02	1.02	....	1.02	1.05	1.00
24–24.9	1.14	1.14	....	1.14	....	1.11	1.10	1.07	....	1.09	1.07	1.07	....	1.10	1.08	1.07
25–25.9	1.21	1.19	....	1.21	....	1.17	1.16	1.13	....	1.16	1.12	1.12	....	1.18	1.13	1.14
26–26.9	1.28	1.24	....	1.28	....	1.23	1.23	1.19	....	1.23	1.17	1.17	....	1.26	1.18	1.21
27–27.9	1.35	1.29	....	1.35	....	1.29	1.30	1.25	....	1.30	1.23	1.22	....	....	1.23	1.28
28–28.9	1.42	1.34	....	1.42	....	1.35	1.37	1.31	....	1.35	1.27	....	....	....	1.28	1.35
29–29.9	1.46	1.39	....	†1.46	....	1.38	1.41	1.37	....	1.41	1.31	....	....	....	1.33	1.39
30–30.9	1.50	1.45	....	†1.50	....	1.41	1.45	1.43	....	1.47	1.35	....	....	....	1.39	1.43
31–31.9	1.55	1.51	....	....	....	....	....	1.49	....	1.53	1.39	....	....	....	1.45	1.48
32–32.9	1.60	1.57	....	....	....	....	....	1.55	....	1.59	1.43	....	....	....	1.51	1.53
33–33.9	....	1.64	....	....	....	....	....	1.60	....	1.65	1.47	....	....	....	1.58	1.59
34–34.9	....	1.71	1.32	....	....	....	....	1.65	....	††1.71	1.51	....	....	....	....	1.65
35–35.9	....	1.78	1.39	....	....	....	....	1.70	....	††1.77	1.55	....	....	....	....	1.71
36–36.9	....	1.84	1.46	....	....	....	....	1.75	....	....	....	....	....	....	....	....
37–37.9	....	1.90	1.53	....	....	....	....	1.80	....	....	....	....	....	....	....	....
38–38.9	....	1.96	1.60	....	....	....	....	1.85	....	....	....	....	....	....	....	....
39–39.9	....	2.02	1.66	....	....	....	....	1.90	....	....	....	....	....	....	....	....
40–40.9	....	2.08	1.72	....	....	....	....	....	....	....	....	....	....	....	....	....
41–41.9	....	2.14	1.78	....	....	....	....	....	....	....	....	....	....	....	....	....
42–42.9	....	2.20	1.84	....	....	....	....	....	....	....	....	....	....	....	....	....

*Inglewood prices run only to 28.9 gravity; Olinda-Brea Canon to 31.9 gravity.
†Richfield crude only. ††These two grades apply on Lost Hills only.
**Standard does not contract for crude testing below 14 gravity, but pays 45c per barrel when purchased.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	June 30	June 23
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$1.00-1.05	$1.00-1.05
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks., lb.	3.50-5.00	3.50-5.00

Compounders' Supplies

Vegetable Oils

Linseed carloads, spot, lb.	14.00	14.00
Tanks, spot	13.20	13.20
Soya Bean, Tank, coast, lb.	9.75	9.75

Oleic Acid

Distilled, tanks, lb.	9.25–9.50	9.25–9.50
Distilled, bbls., lb.	10.125-10.375	10.125-10.375
Saponified, tanks, lb.	9.25	9.25
Saponified, bbls., lb.	10.125–10.625	10.125–10.625

Lard Oils

Prime Winter Strained, lb.	13.50	13.50
Extra Winter Strained, lb.	11.00	11.00
Extra, lb.	10.75	10.75
Extra No. 1, lb.	10.25	10.25
No. 1, lb.	10.00	10.00
No. 2, lb.	9.75	9.75
Tallow oil, lb.	10.00	10.00

Neatsfoot Oil

Pure, bbls., lb.	13.00	13.00
Extra, bbls., lb.	11.00	11.00
No. 1 bbls., lb.	10.50	10.50
Cold Pressed, lb.	17.50	17.50

Fish Oils

Menhaden Oil Light Pressed, gal.	57–58	57–58
Light Pressed, tank cars, N. Y., gal.	47–48	47–48
White bleached, gal.	63–64	63–64
Yellow bleached, gal.	56–57	56–57
Whale, extra winter bleached, gal.	85	85

Naval Stores

Steam, distilled turpentine, N. Y., gal.	41	42
Steam distilled turpentine, Savannah, gal.	37	41
Gum turpentine, N. Y., gal.	47	48
Gum turpentine, f.o.b. cars Savannah, gal.	40.25	43
Wood Rosin, N. Y., gal.	$5.86	$6.01
Wood Rosin F, Savn'h., bbl.	$5.10	$5.30
Gum Rosin B, N Y., bbl.	$6.50	$6.25
Gum Rosin B, f.o.b. cars Savannah, bbl.	$5.25	$5.55
Rosin oil, pure, gal.	57	57
Rosin Oil, compounded, gal.	50	50

Pine Tar

Kiln burnt, bbl.	$13.00–14.00	$13.00–14.00
Retort, bbl.	$13.50–14.50	$13.50–14.50

Alcohol

Denatured Formula 5, in bbls., per gal.	49–53	49–53

OIL STOCKS AND FINANCES

S. O. Indiana Renews Exchange Offer

CHICAGO, June 28.—Standard Oil Co. of Indiana has renewed its offer to exchange seven of its shares for six shares of Pan American Petroleum & Transport Co. The offer is effective from July 1 to Aug. 15, inclusive.

E. G. Seubert, president of the Indiana company, announced the offer was renewed because many stockholders were unable to take advantage of the previous exchange offer which expired last Nov. 30.

The Indiana company now owns 93 per cent of the voting common stock of Pan American and 79 per cent of the Class B non-voting stock, or a total of 83 per cent of both classes of Pan American stock.

An effort will be made by Indiana to retire all fractional shares of its stock. Fractional share will be bought at the rate of $56 a share. If holders wish to buy enough fractional shares to complete a whole share, fractions will be sold them at the $56 rate.

Fractional shares involved in the Pan American exchange will be settled for in cash at $56 a share for the Indiana stock.

Shell Nets 25 Per Cent

NEW YORK, June 28.—Shell Trading & Transport Co., 40 per cent owner of the oil operating companies that make up the Royal Dutch-Shell group, netted 25 per cent on its ordinary stock in 1929 after expenses, other regular charges, and dividends on its two classes of preferred stock. The company earned the same rate in 1928 on a smaller amount of ordinary stock outstanding.

Paragon Stockholders Approve Sale Terms

CLEVELAND, June 28.—Stockholders of Paragon Refining Co. have approved sale to Union Trust Co. of Pittsburgh of Paragon's assets except cash, accounts and notes receivable, and majority interest in Valvoline Oil Co. The price was approximately $10,000,000.

The purchase was presumably for the new Union Gulf Co. which is to lay a crude oil pipe line from Oklahoma to Toledo, where the Paragon has a refinery; Pittsburgh and Cincinnati where Gulf is expected to build new refineries.

The Paragon stockholders also approved sale to E. W. Edwards, president of Paragon, of 32,228 shares of Valvoline Oil Co. common stock at $199.59 a share. This was the price at which Paragon bought the Valvoline stock last year.

It was said in Cincinnati where the stockholders met that affairs of Paragon would be liquidated as quickly as possible and that common stockholders will receive between $16 and $17 a share. Preferred stockholders are guaranteed $50 a share.

Financial Notes

MacMillan Petroleum Corp.—Quarterly dividend of 50 cents cash and 2 per cent stock due at this time is omitted.

Standard Oil Co. of New York—H. A. Wilkinson elected vice president and W. B. Walker secretary.

H. F. Wilcox Oil & Gas Co.—Net earnings of $270,876 reported for April and May after depreciation, depletion and other reserves. Net profit the first quarter of 1930 was $83,917 after reserves.

Union Oil Co. of California—150,000 additional shares of $25 par capital stock listed on New York Stock Exchange to provide for regular quarterly stock dividends.

S. O. Pa. Plans Expansion

NEW YORK, June 28.—The Standard Oil Co., of New Jersey, through its subsidiary company Standard of Pennsylvania, is intending to extend its marketing operations in Pittsburgh, according to reports. It is said the Pennsylvania company intends to purchase the Waverly Oil Co., but official confirmation has not been given.

For several months Standard has been buying stations in Pittsburgh, it is reported, and has acquired more than 100 outlets there.

TULSA, June 28.—The Signal Gasoline Co., which has had offices in the Exchange National Bank building, will remove July 1 to its new quarters at 608 Thompson building, according to an announcement by Ray R. Rosier, manager of the Tulsa office. The company is a subsidiary of the Signal Oil & Gas Corp. of Los Angeles.

Cities Service Publicly Offers Debentures

CLEVELAND, June 30.—Public offering was made last week of the unsubscribed portion of Cities Service Co.'s issue of $118,115,600 5 per cent gold debentures due in 1950. The price was par and interest from June 16.

Proceeds from this issue will be applied to construction expenditures, additional investments, extensions and additions to properties of subsidiary companies.

McMan Offices

TULSA, June 28—Offices of the McMan Oil & Gas Co., recently purchased by the Standard Oil Co., of Indiana, have been moved from the Drew building to the ninth floor of the Philcade building, Tulsa. The Dixie Oil Co. also has offices in the Philcade and the move brings the two companies under one roof. They are operated by nearly the same personnel throughout since the Indiana company bought the McMan.

Moves Imperial Sales Offices

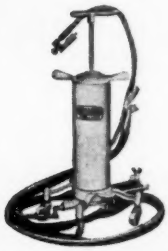
TULSA.—Sales office of the Imperial Refining Co., hitherto maintained in Tulsa, were moved to Ardmore, Okla., on July 1. J. B. Saunders, sales manager, is now located in the latter city. All traffic work of the company will also be handled at Ardmore, under the direction of F. O. Moore.

TULSA, June 28.—Roy Lambert, vice president of the Western Fuel & Oil Co. and manager of the company's Tulsa office has announced that effective July 1 the company will have quarters in the Thompson building. The company's former quarters were in the McBirney building.

The United States shipped 7420 tons of petroleum coke and 31,990 tons of petroleum asphalt abroad last December.

Kerosene imports into British India during 1928, which totaled nearly 3,000,000 barrels, were divided among these countries: from Persia, 960,000 barrels; from Georgia (bordering southeastern Russia), 590,000 barrels; from the United States, 490,000 barrels; from Borneo, 435,000 barrels; and from Russia, 405,000 barrels.

KELLOGG COMPRESSORS



Model 20-A Lubricator
(Air Operated)

4500 to 6000 pounds pressure... 20 pounds capacity ... nothing to get out of order ... fast and portable. Handles any type of grease.

$105.00 Net

Kellogg Metapump

Complies with legislation of all states. The first accurate pump built integral with an accurate meter. Pump is positive ... does not by-pass, requires no priming. Meter registers grease delivery in ¼, ½, ¾ and full pints. Total counter is returned to zero after each job. Dust-proof, easy to fill, equipped with 5 ft. special grease-proof hose and drip-proof nozzle. Also made for 100 lb. cartridges.

$16.50

Kellogg Spring Lubricator

Weighing only 11 pounds... easily carried around. Consists of thoroughly tested combination air and fluid tank, hose with spray gun and valve intake valve, shut-off valve and gauge. Puts the penetrating oil where it belongs ... not all over the body of the car.

$20.00 Net

Kellogg Spring Oiling Gun KS

For spring oiling, engine cleaning, or similar work where a finely divided spray of liquid is required. Long nozzle reaches inaccessible parts.

$8.50 Net

SUPER-SERVICE DEMANDS
THESE KELLOGG NUMBERS

A Powerful Two-Stage Compressor Designed for Super-Service Stations

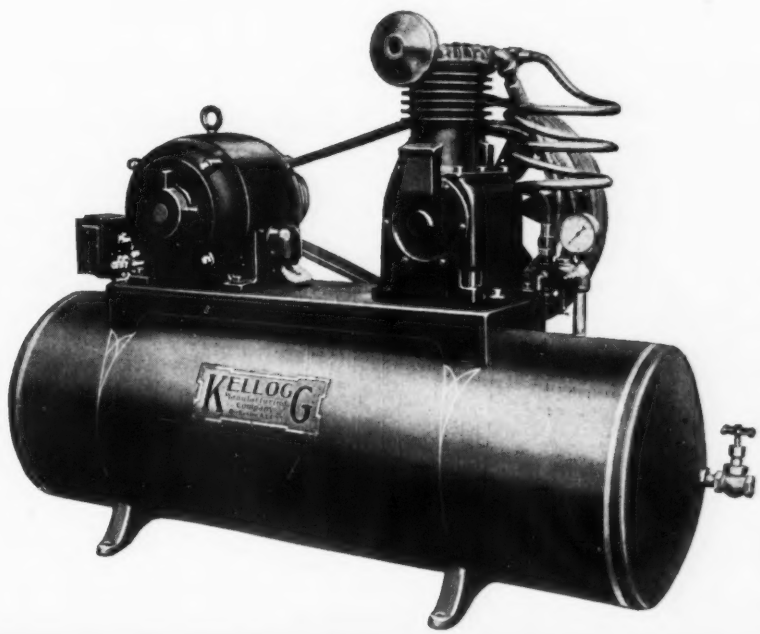
Representing the highest developments of engineering practice, this KELLOGG compressor will supply the large volume of air at high pressure demanded in today's super-service station.

Even those volumes required for truck tires and hydraulic lifts are simple for this Kellogg model. Of welded steel construction, equipped with Timken bearings, and every part of undisputed quality.

- 4 to 30 cubic ft. of air
- ¾ horsepower to 7½ horsepower motor
- Equipped with Kellogg pump and splash lubricating system
- Dual Valves
- Patented Intercooler
- Multiple V Belt Drive
- Copper coil after cooler
- Timken bearings.

KELLOGG MFG. CO.

45 Humboldt St. Rochester, N. Y.



Transactions in Oil Shares on New York Stock Exchange

1929 High	1929 Low	1930 High	1930 Low	Listed Shares	Par Value	Company	Div. Rate	Last Paid	Transactions Week Ended June 28 Sales	First	High	Low	Last	Change
42⅜	17⅛	42¼	20½	922,075	N.P.	Amerada Corp.	50cQ	Apr. 30, 30	7,400	23	23¾	21½	23	— ⅛
64⅜	12½	37	15¼	209,180	N.P.	American Republics Corp.	....	.....	2,900	16½	17⅜	15½	10⅛	— ⅜
47⅛	34½	51	32½	2,240,000	$25	Associated Oil	50cQ	Mar. 31, 30	.....	.....	.....	.....	.....	.....
77⅞	30	51⅜	30⅛	2,683,868	25	Atlantic Refining Co.	‡25cQ	Mar. 15, 30	38,400	32¾	35	32½	34¾	+ 1⅝
49⅛	20	34	20½	2,257,108	25	Barnsdall Corp. A	50cQ	May 7, 30	24,500	21½	22	21	21½	— 1¼
34½	25	29⅝	28	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	20	28	28	28	28	0
32⅞	12½	20⅝	12¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	6,200	14	14⅛	13¼	14	0
37⅜	18	30½	18⅜	4,610,258	N.P.	Continental Oil (Delaware)	....	.....	50,000	19⅛	20⅜	18⅜	19⅛	0
94¾	42¼	71⅛	39	410,857	$100	General Asphalt Co.	$1Q	Mar. 15, 30	14,800	40⅛	43¼	38⅝	41¼	+ 1⅛
109	26	116⅞	52¼	250,000	100	Houston Oil	....	.....	78,500	66¼	74⅞	64½	72	+ 4
39⅛	17¾	32	19⅜	1,379,295	N.P.	Independent Oil & Gas	50cQ	Apr. 30, 30	22,300	20¼	21	†19⅜	20¾	+ ⅛
53	13⅛	28⅜	8⅞	699,066	10	Indian Refining	....	Dec. 15, 20	31,500	10½	11½	10	10½	+ ⅛
51¼	11½	27¾	8⅛	568,816	10	do certificates	....	.....	5,500	9⅞	11¼	9¾	10⅛	+ ⅛
38⅜	16½	26½	21¼	3,994,150	N.P.	Lago Oil & Transport	....	Aug. 2, 27	2,900	22½	24	22½	23½	0
18	7	12	8	1,187,701	N.P.	Louisiana Oil Refining	....	.....	11,100	8	8⅛	8	8⅛	0
100¼	80	89¼	80⅛	40,000	$100	do pfd.	$1.62½Q	May 15, 30	.....	....	....	....	....	.....
18½	5⅞	10⅜	5	330,000	N.P.	Maracaibo Oil Exploration	....	.....	500	5	5	5	5	0
295	176	180	174	459,428	$100	Mexican Petroleum	$3Q	Apr. 21, 30	10	177	177	177	177	+ 3
105	102	....	....	120,000	100	do pfd.	$2Q	Apr. 21, 30	.....	.....	.....	.....	.....	.....
69⅛	9¼	37	16⅛	1,244,383	N.P.	Mexican Seaboard Oil	....	Oct. 15, 24	72,000	17⅜	19½	17⅛	19	+ 1⅛
39⅞	22⅛	33	22⅛	1,899,138	N.P.	Mid-Continent Petroleum	50cQ	May 15, 30	11,800	23½	23¾	22⅝	23⅛	— ⅜
3⅝	⅝	2½	⅞	908,171	N.P.	Middle States Oil ctfs.	....	.....	5,900	1	1¼	1	1⅛	0
69	40¼	64¼	51⅝	1,000,000	$50	Pan American Petrol. & Trans.	....	Oct. 20, 27	800	55	56½	54¾	55	— ½
69¼	40½	67½	50½	2,422,221	50	do B	....	Oct. 20, 27	11,100	55	57	54¾	57	+ 2⅜
15¾	3	12¾	4⅛	199,370	N.P.	Panhandle Prod. & Refg.	....	.....	1,100	6½	7½	6½	6⅝	+ ⅛
76	47½	80	47½	25,666	$100	do pfd.	....	July 2, 23	200	73	73	73	73	+ 3
....	....	27¼	18¾	.....	....	Petroleum Corp. of America	....	.....	21,000	19⅝	20¾	†18¾	19⅜	— ⅝
47	24¼	44¾	29⅛	2,670,089	N.P.	Phillips Petroleum Co.	50cQ	Apr. 1, 30	39,100	30⅛	31½	29¾	31½	+ ⅜
3⅜	1	2½	1	1,184,917	$25	Pierce Oil Corp.	....	.....	2,400	1¼	1¼	1	1⅛	— ⅛
51½	20	52	20½	150,000	100	do pfd.	....	Feb. 1, 22	1,600	25	25½	25	25	— 2
5⅞	⅛	7⅛	2¼	2,500,000	N.P.	Pierce Petroleum Corp.	....	.....	16,100	4½	4⅞	4⅛	4¼	— ¾
65⅜	40½	54	36	2,435,670	$25	Prairie Oil & Gas Co.	50cQ	Mar. 31, 30	4,900	37	37⅜	36	37	0
65	45	60	44⅛	4,050,000	25	Prairie Pipe Line Co.	‡75cQ	Mar. 31, 30	6,700	45	45¾	44½	45	0
25⅞	4	11⅞	6½	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 30	2,900	6⅞	7¾	6¾	7¾	+ ¾
46¾	25½	38	30	56,907	50	do pfd.	....	May 4, 25	420	30	30	30	30	0
30¾	20	27¼	19½	3,038,370	25	Pure Oil Co.	37½cQ	June 2, 30	21,200	20⅛	20⅜	†19½	20¼	+ ⅛
116	108	114¼	110½	130,000	100	do 8% pfd.	$2Q	Apr. 1, 30	260	112	112½	111½	111½	— 1
49⅝	22⅜	28¼	14¾	2,101,550	25	Richfield Oil (California)	50cQ	May 15, 30	21,000	15½	16¼	15⅛	15⅜	— ⅛
42½	15	25⅝	16¼	1,235,270	N.P.	Rio Grande Oil Co.	50cQ	Apr. 25, 30	9,200	16	16⅞	15⅜	16⅝	0
64	43⅛	56½	49⅛	951,310	$13.40	Royal Dutch (N. Y. shares)	$1.3415	Feb. 15, 30	27,600	50⅛	52⅛	50	51⅞	+ 2⅛
55⅜	43⅜	48⅜	42⅜	77,492	£2	Shell Transp. & Trading	97c	Jan. 28, 30	20	44¾	44¾	44¾	44¾	+ ⅝
31⅜	19	25½	18	13,069,076	N.P.	Shell Union Oil Corp.	35cQ	Mar. 31, 30	14,100	18⅝	19⅜	18⅜	18½	— ⅛
....	....	106¼	95	400,000	100	do pfd.	$1.37½Q	Apr. 1, 30	1,200	97	97⅜	96⅜	97	0
40¾	15	37	18	869,255	10	Simms Petroleum Co.	40cQ	Mar. 15, 30	9,100	20	20½	20	20	0
45	21	32	20⅜	5,455,665	N.P.	Sinclair Consolidated Oil Corp.	50cQ	Apr. 15, 30	143,800	21	21½	20	21	— ½
111	103	112¼	108	154,685	100	do pfd.	$2Q	May 15, 30	900	110	110	110	110	+ 2
46½	42	42	28½	1,097,650	$25	Skelly Oil Co.	50cQ	Mar. 15, 30	13,500	29½	29½	†28½	28¾	— ¾
....	....	99¾	89½	120,000	100	do pfd.	....	.....	1,200	91⅛	91⅛	†89½	89½	— 1⅛
....	....	104¼	98	750,000	100	S. O. Export Corp. pfd.	....	.....	1,700	101½	101½	100¾	100⅞	— ⅜
81⅞	51½	75	55½	13,016,434	N.P.	S. O. California	62½cQ	Mar. 15, 30	30,600	58⅛	61	57½	58¾	+ ¾
....	....	49	29	320,000	$25	S. O. Kansas	50cQ	Mar. 15, 30	5,400	31	32	29⅝	30½	— 1½
83	48	84⅞	58	25,443,643	25	S. O. New Jersey	‡25cQ	Mar. 15, 30	234,100	61	65¼	61	64⅛	+ 1⅞
48⅛	31¾	40⅜	30	17,809,530	25	S. O. New York	40cQ	Mar. 15, 30	69,900	30½	31	†30	30⅞	— ⅛
86⅜	55	70	50	1,416,911	N.P.	Sun Oil Co.	25cQ	Mar. 15, 30	1,700	57	57	56⅞	57	0
105½	100	105½	102½	100,000	$100	do pfd.	$1.50Q	June 2, 30	250	103¾	104	102⅞	102⅞	— ⅞
24	5¼	9⅜	5	1,026,979	N.P.	Superior Oil Corp.	....	.....	7,400	5	5¼	5	5⅛	0
71⅞	50	60½	50⅛	9,850,724	$25	The Texas Corp.	75cQ	Apr. 1, 30	43,100	50⅝	51⅜	50¼	50⅞	— ⅝
23⅞	9½	14½	8¼	929,947	10	Texas Pacific Coal & Oil	e2½%	Dec. 31, 29	5,500	8½	9⅜	8½	9⅛	+ ⅜
23½	10	17¾	10¾	5,881,980	N.P.	Tide Water Associated Oil	30cS.A.	Feb. 15, 30	51,200	13	13½	12	13¼	0
90⅞	74⅜	89¾	78	732,550	$100	do pfd.	$1.50Q	Mar. 31, 30	1,100	83	83	82	82	— 1½
40	14	31	19½	2,191,820	N.P.	Tide Water Oil Co.	20cQ	Mar. 31, 30	.....	....	....	....	....	.....
97½	85⅜	94⅞	85½	199,443	$100	do pfd.	$1.25Q	May 15, 30	.....	....	....	....	....	.....
....	....	24	16¼	3,339,150	N.P.	Transcontinental Oil	30c	May 1, 30	62,600	17¼	17¾	16⅝	17⅛	— ⅜
57	42⅜	50	37	2,201,008	$25	Union Oil Co. (California)	‡50cQ	May 10, 30	1,800	38½	39⅞	39¼	39¾	+ 1⅜
....	....	38⅛	25¼	1,254,048	N.P.	Union Tank Car Co.	40cQ	June 2, 30	1,600	29½	29½	29	29	+ ¼
42⅞	15	27	12¾	777,603	N.P.	Warner Quinlan Co.	25cQ	Apr. 3, 30	11,600	13	13¼	†12¾	13	0
38	25	29½	26	490,000	N.P.	White Eagle Oil & Refg.	50cQ	Apr. 20, 30	.....	....	....	....	....	.....
29¾	12⅜	21	11½	428,967	N.P.	Wilcox Oil & Gas Co.	....	May 10, 28	1,800	16	17	15¾	16½	0

*New high †New low ‡Also extra e-Stock Total sales 1,288,980

Pittsburgh Stock Exchange

Transactions Week Ended June 27, 1930

	Sales	High	Low	Last	Change
Ark. Nat. Gas	375	10⅛	10	10	0
do pfd.	1,596	7⅞	7½	7½	— ⅜
Devonian Oil	210	8¾	7⅞	7⅞	—1⅛
Leonard Oil	24,875	2	1⅝	1⅞	— ⅛
Lone Star Gas	21,369	39	34½	34¾	—4¼
do pfd.	295	106½	106½	106½	— ½
Plymouth Oil	1,650	27½	24	26	+2
Phoenix Oil	16,000	.65	.45	.60	+.10
Pgh. Oil & Gas	182	3	3	3	0
Shamrock Oil & Gas	5,125	15⅞	13½	14¼	—2¼
Waverly Oil A	20	18	18	18	— ½
Lone Star Rights	48,359	2⅞	1⅞	1⅞	—1

Pittsburgh Curb Market

Transactions Week Ended June 27, 1930

	Sales	High	Low	Last	Change
Arkansas Gas A	400	10⅛	10	10	+ ¼

Oil Dividends

	Amount	Payable	Stock of Record
Rio Grande Oil q	50c	July 25	July 5

"Physical Rythm" Cult Head Enjoined in Stock Sale

NEW YORK, June 26.—A court order restraining Alois P. Swoboda from selling stock in a proposed oil development, was issued June 25 by Supreme Court Justice Druhan, in Brooklyn. The injunction was upon application of the Bureau of Securities of the state attorney general's office.

Mr. Swoboda is known through his association with physical culture; he is said to be the founder of a "physical rythm" cult. Members complained that Mr. Swoboda had solicited investments, the Bureau of Securities charged.

About $70,000 was collected by Swoboda, it was charged, for the development of an oil pool of 1000 acres. A letter is alleged to have been sent through the mails to about 2500 members of the cult. They were advised that "Dahlgran has located for me what he considers a very extensive oil pool consisting of 1000 acres and is positive the first well will be a gusher."

No mention was made of who or what "Dahlgran" was. The letter said that "one oil company had offered $2,000,000 for his services but he was easily worth $100,000,000 to Swobodians and humanity."

The complaint alleged that, although Swoboda had had the $70,000 for a year and a half, no oil had been produced.

Townsend Appointed on Fire Committee

NEW YORK—C. E. Townsend, Sun Oil Co., Philadelphia, has been appointed a member of the American Petroleum Institute committee on fire prevention in marketing. The chairman of the committee, recently created, is R. A. Wotowich, of the H. L. Doherty & Co., New York.

Mid-Continent Opens New Marketing Division

TULSA, June 28.—A new marketing division, covering Nebraska, western Iowa, Kansas, and northwestern Missouri, is to be opened July 1 by the Mid-Continent Petroleum Corp. L. V. Surtees, now in charge of the company's northern division, will be temporary manager. Headquarters will be at Lincoln, Neb., in the Sharpe bldg.

The new division will have 33 bulk stations, and 54 service stations. Many of them are established units that have been operated by the northern and eastern divisions.

The western division will comprise all of Nebraska; western Iowa as far east as David City, Shenandoah, Creston and Clarinda; Kansas as far south as Lawrence, Topeka and Manhattan; and northwest Missouri as far south as Sedalia. A large warehouse at St. Joseph, Mo., will be under the jurisdiction of the Lincoln office.

J. J. Dowling, wholesale division manager for the company at Kansas City, is joining the new division. He will have complete charge of both wholesale and retail sales. Everett Brayfield is transferring to the western division as operating manager. He was formerly district superintendent in western Missouri.

The Lincoln office will have charge of retail distribution, and will take care of all accounts and finances in the new division. C. F. Wood is to be the auditor of the new division. He will be assisted by D. H. Sproul.

Reeser Speaks on Radio Program

NEW YORK—The oil industry will be represented on the Columbia Broadcasting System's series of "Romance of Industry" by E. B. Reeser, president of the American Petroleum Institute. Mr. Reeser will be on the air July 19 at 7:15 p.m., eastern standard time. The program will be carried by stations WABC and W2XE and 32 other stations of the Columbia network.

Low Operating Expense Claimed for New Car

CLEVELAND, July 1.—The Bantam Austin, the American version of the English Austin car, appeared in the American market June 28. This new car is smaller than any American car and greater economy in the use of gasoline and motor oil is claimed for it.

The car has a wheelbase of 75 inches, 28½ inches shorter than the Ford and a tread of 40 inches, 16 inches narrower than the standard tread.

The engine has four cylinders, 2.2-inch bore and 3-inch stroke. It has a taxable horsepower rating of 7.8 and brake horsepower of 14 at 3200 r.p.m.

The car has a 5½-gallon gasoline tank reached by raising the left hood cover. The crankcase holds 2½ quarts of oil. The Alemite-Zerk system is used for chassis lubrication.

The transmission case takes only 2/3 pint of compound and the differential 1 pint.

The radiator holds 6 quarts of water.

Manufacturer claims 40 miles on a gallon of gasoline. The compression ratio of 5 to 1 indicates an anti-knock fuel would be desirable in congested traffic districts and hilly country.

Change of crankcase oil only every 1000 miles is recommended.

GULF COASTAL WATER SHIPMENTS—May Compared with April

(All figures in Barrels of 42 Gallons)

Company—Port	Coastwise Refined April	Coastwise Refined May	Export Refined April	Export Refined May
Standard of Louisiana, Baton Rouge	429,415.00	852,726.00	593,229.00	323,151.00
The Texas Company, Port Arthur	1,242,741.00	1,562,624.00	342,917.00	83,248.00
Gulf Refining Co., Port Arthur	2,506,675.68	2,360,967.99	178,385.00	75,685,77
Magnolia Petroleum Co., Beaumont	1,419,702.21	1,678,858.26(a)	.....	.....
Humble Oil & Rfg. Co., Baytown	2,320,744.89	1,581,099.61	2,042,646.15	1,562,210.22
Atlantic Oil Prod. Co., Atreco	68,089.21	157,150.34	.....	.....
Pure Oil Company, Smiths Bluff	424,225.92	385,186.51	.....	.....
Totals	8,411,593.91	8,578,612.71	3,157,177.17	2,044,294.99

	Coastwise Crude		Export Crude	
Standard of Louisiana Baton Rouge	423,312.00	397,830.00	.....	52,891.00
The Texas Company, Port Arthur	.....	382,149.00	.....	.....
Gulf Refining Co., Port Arthur	445,030.84	481,678.48	.....	.....
Magnolia Petroleum Co., Beaumont	958,581.32	1,081,706.35(a)	.....	.....
Humble Oil & Refg. Co.:				
Texas City	615,307.00	753,079.00	.....	.....
Ingleside	165,360.00	98,758.00	.....	.....
Baytown	215,776.00	272,219.00	53,794.00	.....
Harbor Island	1,521,814.00	2,299,978.00	.....	.....
Neches	.....	60,011.00	.....	.....
Atlantic Oil Prod. Co.:				
Atreco	839,324.37	904,401.36	.....	.....
Beaumont	182,339.45	126,366.80	.....	.....
Pure Oil Company, Smiths Bluff	700,194.37	561,909.15	.....	.....
Sun Oil Company, Sabine Pass	775,243.00	886,437.00	.....	.....
Totals	6,842,282.35	8,306,523.14	53,794.00	52,891.00

(a) Magnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

REFRIGERATING ENGINEER, twelve years experience in the manufacture of lubricating oils and wax. Knowledge of chemical engineering. Desires position as superintendent or foreman. Address Box 553.

REFINERY SUPERINTENDENT, 31, with ten years experience in fractionation and treatment of gasoline and kerosene including cracking, desires connection. Recognized as refinery engineer. Refinery last employed discontinued account losing crude contract. References. Address Box 544.

Situations Open

NAPHTHA SALESMAN WANTED

Must be familiar with Naphtha trade. Address with full information.

Address Box 551

Care National Petroleum News

Business Opportunities

WHERE JOBBER AND REFINER MEET

My office is nothing more than a clearing house for Seller and Buyer of Petroleum Products

DALE W. MOORE

405 Philtower Bldg., Tulsa, Okla.
Telephones: 3-4177 and 3-4178.
L. D. 136

Patent Attorneys

ROYAL E. BURNHAM
Attorney-At-Law
Patent and Trade-Mark Practice Exclusively
Continental Trust Building
Washington, D. C.

Miscellaneous

Advertisers having box numbers should be addressed in care of National Petroleum News, 1213 West 3rd Street, Cleveland, Ohio, unless otherwise specified.

Standard Oil Stocks on New York Curb

1929 High	1929 Low	1930 High	1930 Low	Outstanding Shares	Par Value	Companies	Div. Rate	Last Paid	Transactions Sales	Week Ended June 28 First	High	Low	Last	Change
18¾	13½	18½	12¼	.....	£1	Anglo-Amer. Oil voting stk. ctfs..	36c	June 5, 29	.....	....	....	....	....	.....
17⅛	11	19	12	.....	£1	do non-voting stk. ctfs.....	36c	June 5, 29	.....	....	....	....	....	.....
2½	¾	1	⅛	500,000	N.P.	Atlantic Lobos Oil.....	....	.....	500	½	½	½	½	0
4½	1	1½	1¼	200,000	$50	do pfd.....	....	.....	200	1⅜	1⅜	1⅜	1⅜	0
46½	25	25	14	40,000	25	Borne Scrymser Co.....	$1S.A.	Apr. 15, 30	100	20	20	20	20	0
74¼	55	69	55¼	200,000	50	Buckeye Pipe Line Co.....	$1Q	Mar. 15, 30	200	56	56	†55¼	55¼	— ¾
210	130	184⅞	140⅜	120,000	25	Chesebrough Mfg. Co.....	‡$1Q	Mar. 31, 30	200	149¾	149¾	†140⅜	140⅜	0
11¾	5⅜	7⅝	5½	.....	N.P.	Creole Petroleum Co.....	....	.....	8,800	6	6⅛	5¾	5¾	— ⅛
75¾	40	65¾	35	30,000	$ 50	Cumberland Pipe Line Co.....	$1Q	Mar. 15, 30	.....	....	....	....	....	.....
70½	42	54¾	41½	50,000	100	Eureka Pipe Line Co.....	$1Q	May 1, 30	350	42	42¼	†41½	42¼	+ ¼
....	....	6¾	2½	280,000	N.P.	Galena Oil Corp. w.i.....	....	.....	100	4	4	4	4	— 1¾
.....	.....	37¼	30	.....	N.P.	General Petroleum Corp. w.i.....	....	.....	2,800	31⅛	31⅛	†30	30½	— ⅝
128	74½	119	78	2,974,645	$25	Humble Oil & Refg. Co.....	50cQ	Apr. 1, 30	14,800	86	88¼	83⅝	84½	— 2¼
41	22	30	18⅛	26,490,741	N.P.	Imperial Oil, Ltd.....	12½cQ	June 2, 30	19,400	19⅜	20	19	19	— 1
42⅛	26	41	31⅞	300,000	$10	Indiana Pipe Line Co.....	50cQ	May 15, 30	1,200	33	34	†31⅞	31⅞	— 2⅛
29⅜	15	24	17⅝	14,247,880	N.P.	International Petroleum Co.....	25c	Mar. 15, 30	9,800	18	18½	17⅝	17⅞	— ⅛
25⅞	10½	22⅝	15⅛	509,000	$12½	National Transit Co.....	25cQ	Mar. 15, 30	2,800	17¼	17½	17⅛	17⅛	0
17¾	10	21	10⅛	100,000	10	New York Transit Co.....	‡40cQ	Apr. 15, 30	100	15¼	15¼	15¼	15¼	+ 1¼
63	41	54	35½	40,000	50	Northern Pipe Line Co.....	$2S.A.	Jan. 2, 30	100	40	40	40	40	+ 4½
79⅞	64⅜	75¾	62⅛	2,400,000	25	Ohio Oil Co.....	‡50cQ	Mar. 15, 30	5,200	65⅜	65⅜	†62⅛	64⅜	+ ⅜
105½	103¾	108	103	600,000	100	do pfd.....	$1.50Q	June 14, 30	1,900	104½	104½	104	104½	+ ⅜
44½	18⅜	32	17	400,000	25	Penn Mex. Fuel Co.....	$1	May 20, 30	400	19⅞	19⅞	†17	19⅞	— ⅛
50	29	33	15	160,000	25	Solar Refining Co.....	$1.25S.A.	Dec. 20, 29	100	15	15	†15	15	— 1
23½	13	20⅛	13	100,000	10	Southern Pipe Line Co.....	$5	June 2, 30	100	16⅛	16⅛	16⅛	16⅛	+ ⅛
60¼	35⅜	45⅞	35	1,200,000	25	South Penn Oil Co.....	‡50cQ	Mar. 31, 30	1,700	37¼	37⅞	37	37	— ¼
70	45	64	45¼	35,000	50	Southwest Pa. Pipe Lines.....	$1Q	Apr. 1, 30	50	45¼	45¼	†45¼	45¼	— 4¾
63	45	59⅞	47⅝	16,850,587	25	S. O. Indiana.....	62½cQ	Mar. 15, 30	41,700	48⅛	49¾	†47⅝	49¼	0
46⅞	29	40½	30½	2,577,124	10	S. O. Kentucky.....	40cQ	Mar. 31, 30	7,100	30⅜	32	30½	35⅝	+ ⅛
50¼	40	48⅞	44⅛	188,159	25	S. O. Nebraska.....	‡62½cQ	Mar. 20, 30	100	45	45⅛	45	45⅛	— 2
129	60	108½	77	560,000	25	S. O. Ohio.....	62½cQ	Apr. 1, 30	1,650	78	87	77	80	+ 3
124⅛	113½	122	115¼	70,000	100	do pfd.....	$1.75Q	June 2, 30	40	116¼	118	116¼	118	+ 2
18	5⅜	10	5	34,158	25	Swan Finch Oil Corp.....	....	Jan. 15, 29	100	7	7	†7	7	— 1
133¾	75⅛	97⅛	76¼	5,139,887	25	Vacuum Oil Co.....	$1Q	Mar. 20, 30	11,400	78¾	81½	78⅜	81½	+ 2½

*New high †New low ‡Also extra

Independent Oils on New York Curb

1929 High	1929 Low	1930 High	1930 Low	Par Value	Companies	Transactions Sales	Week Ended June 28 First	High	Low	Last	Change
.72	⅛	⅜	⅛	$1	Amer. Contr. Oilfields	11,500	⅛	⅛	†⅛	⅛	+ ⅛
8⅝	1¾	4½	1½	5	Amer. Maracaibo.....	4,500	2½	2½	2⅛	2⅛	— ⅜
4¾	1	1⅝	1¼	10	Argo Oil.....	.....	.....	.....	.....	.....	.....
26	3¾	16¾	8¼	N.P.	Arkansas Nat. Gas...	3,600	10⅝	10⅝	9¾	9¾	0
24¾	6½	16⅜	8⅛	N.P.	do Class A.....	14,000	10	10¼	9¼	9½	— ⅛
9	4	8⅛	7⅜	10	do pfd.....	600	7⅞	7⅞	7⅞	7⅞	0
70	50	28½	20¼	N.P.	British American Oil..	.....	.....	.....	.....	.....	.....
4⅞	⅛	2¾	¾	¼	Carib Syndicate.....	1,300	1⅜	1⅜	1⅛	1⅛	— ⅛
68½	20	44¼	24⅛	N.P.	Cities Service.....	150,700	26	27½	25⅞	26⅝	— ⅜
99¼	84	93⅞	52	100	do pfd.....	200	89¾	89⅞	88⅝	88⅝	0
9¼	8	9	7⅝	10	do pref. B.....	200	8¼	8¼	8¼	8¼	0
96	81	89⅞	82	100	do pref. BB.....	.....	.....	.....	.....	.....	.....
1½	¼	⅛	¼	1	Colombia Syndicate..	9,400	⅜	⅜	⅛	⅜	0
15	3⅛	8¼	3½	N.P.	Colon Oil Corp.....	800	4	4	3⅝	3⅞	— ⅛
....	....	21	8⅝	N.P.	Columbia Oil & Gas...	9,100	10⅜	10½	†8⅝	9	— 1½
11⅜	2½	5⅞	3½	10	Consolidated Royalty	.....	.....	.....	.....	.....	.....
135	42	74¾	32	N.P.	Cosden Oil Co.....	8,400	35	36⅜	†32	35⅞	— 1
87	55	70	60⅞	100	do pfd.....	400	61¼	61¼	†60⅞	60⅞	— 3⅛
2½	¼	1	¼	N.P.	Crown Central Pet...	.....	.....	.....	.....	.....	.....
11¾	4	....	....	N.P.	Crystal Oil.....	.....	.....	.....	.....	.....	.....
51⅛	51⅛	....	....	100	do pfd.....	.....	.....	.....	.....	.....	.....
26	6½	12⅞	7¼	N.P.	Darby Petroleum....	800	13½	13⅝	13⅜	13⅜	— 2⅞
....	....	21¾	21½	N.P.	do new.....	.....	.....	.....	.....	.....	.....
11	2	11	4½	N.P.	Derby Oil & Refg.....	400	7⅛	7⅛	6⅝	6⅝	0
44	17	60	30	N.P.	do pfd.....	275	50	50	40	40	—13
....	....	12	12	10	Devonian Oil.....	.....	.....	.....	.....	.....	.....
209	115	166⅞	117⅛	$25	Gulf Oil Corp.....	22,800	118⅞	123	†117⅜	120	0
7½	1⅜	4	2¼	N.P.	Homaokla Oil.....	.....	.....	.....	.....	.....	.....
....	....	47½	28¼	N.P.	Indian Territory A..	4,200	28½	28⅝	28¼	28⅝	0
....	....	53½	28⅜	N.P.	do B.....	3,800	28⅝	28¾	28½	28½	— ⅛
2⅞	⅝	1¾	¾	10	Intercontinental Pet..	12,800	¾	1	¾	1	+ ⅛
3⅝	1¼	3	1¾	N.P.	Kirby Petroleum....	.....	.....	.....	.....	.....	.....
6⅛	1	4¾	1¼	N.P.	Leonard Oil & Dev..	9,800	1⅞	1⅞	1⅝	1¾	0
38⅞	18	29	18⅝	N.P.	Lion Oil Refg.....	4,800	23⅞	23⅞	20⅜	21⅜	— 1⅝
67⅞	28	55⅞	34⅛	N.P.	Lone Star Gas.....	9,200	37½	38	34¼	34½	— 3⅛
....	....	31	28½	$25	MacMillan Petrol....	.....	.....	.....	.....	.....	.....
2⅞	¼	⅛	⅛	1	Magdalena Synd.....	3,800	⅛	⅜	¼	⅛	0
38½	14	16	12	N.P.	Margay Oil.....	.....	.....	.....	.....	.....	.....
6⅜	2¼	7½	2	N.P.	Mexico Ohio Oil.....	.....	.....	.....	.....	.....	.....
....	....	11⅞	4½	N.P.	Middle States A.v.t.c.	2,800	5⅝	6	†4½	6	— ⅛
....	....	6	2⅛	N.P.	do Class B. v.t.c.	3,400	2½	2⅞	†2¼	2¾	0
42	8	36¼	15	5	Missouri-Kansas P.L.	18,800	22⅝	25	22⅝	23⅜	0
1⅛	¼	⅝	⅝	1	Mountain & Gulf Oil..	900	½	½	½	½	0
22¼	7	12⅜	8	10	Mountain Producers..	3,800	8¼	8⅝	8	8½	0
43⅞	24	41⅜	25⅛	N.P.	Nat. Fuel Gas.....	4,200	30⅝	31⅛	30⅛	31⅛	— 2⅛
5	2¼	3½	2⅜	$5	New Bradford Oil....	300	2¾	2¾	2¾	2¾	+ ⅛
4⅜	3⅛	3⅛	2⅜	10	New England Fuel...	.....	.....	.....	.....	.....	.....
24½	11⅜	16⅞	10⅛	25	N. Y. Pet. Royalty..	1,200	12	12½	11	12½	— ½
18½	6⅛	11¼	6	N.P.	North Central Texas	1,400	6¾	6¾	†6	6¾	— ⅛
19¼	8⅛	11⅜	7¾	N.P.	Oilstocks Ltd. A.....	300	7¾	8	†7¾	8	+ ⅛
18¼	8½	11½	8½	N.P.	do B.....	.....	.....	.....	.....	.....	.....
26⅝	12⅛	19½	12½	N.P.	Pacific Western Oil...	500	13⅝	14¼	13⅝	14⅛	— 1
3½	½	2½	¾	N.P.	Pandem Oil.....	1,600	1	1	†¾	⅞	— ⅛
10½	2¼	4⅜	1⅛	N.P.	Pantepec Oil.....	300	2	2¼	2	2	0
25½	13⅛	13⅛	13⅛	$25	Paragon Refg. B. ctfs.	.....	.....	.....	.....	.....	.....
28	17	29	19⅛	N.P.	Petroleum Corp.....	.....	.....	.....	.....	.....	.....
....	....	5⅞	2¾	....	do warrants.....	700	3⅜	3⅞	3¼	3⅜	0
37	22	27½	20⅞	N.P.	Plymouth Oil	4,800	24	27	24	26⅝	+ 2⅝
16	9	10½	8½	$5	Red Bank Oil.....	100	8½	8½	†8½	8½	— 1
8½	1⅜	5⅜	2⅜	N.P.	Reiter-Foster Oil.....	500	2¾	3⅞	2¾	3⅞	+ 1
25¼	19	23½	17½	25	Richfield Oil pfd.....	200	17½	18½	†17½	18½	— 1
29	13	25	14	N.P.	Root Refining pr. pfd.	.....	.....	.....	.....	.....	.....
11	3	8⅝	3⅝	N.P.	Ryan Consolidated...	100	4	4½	4	4½	+ ½
5⅞	1⅞	2½	1⅝	10	Salt Creek Consol....	100	1⅝	1⅝	1⅝	1⅝	+ ⅛
25⅞	9	15¼	8¼	10	Salt Creek Producers	2,800	10	10	†8¼	9⅞	— ⅜
33⅛	10	....	....	25	Shreveport El Dorado	.....	.....	.....	.....	.....	.....
....	....	39⅛	39	25	Signal Oil & Gas A..	.....	.....	.....	.....	.....	.....
24	9	17	9	N.P.	Southland Royalty..	4,300	10½	10½	9⅛	10	0
12	4	10	5	5	Sunray Oil.....	2,300	5½	5⅝	†5	5⅛	— ⅝
23	7⅛	15¼	8⅜	N.P.	Texon Oil & Land...	1,000	13½	14	12½	13⅜	— ⅜
81⅛	8⅞	16	8	10	Venezuela Mexico....	.....	.....	.....	.....	.....	.....
6½	1⅛	4½	2	5	Venezuela Petroleum.	2,800	2¼	2¼	†2	2¼	— ¼
9⅛	2	5	2	1	Woodley Petroleum..	800	4⅛	4⅛	4	4	0
5⅜	¼	2⅛	⅛	N.P.	Y Oil & Gas.....	3,100	1½	1½	1¼	1¼	0

*New High †New Low

New York Bonds

Week Ending June 27

	High	Low	Last	Change
Assoc. Oil gold 6s.....	103	103	103	0
Atlantic Refg. deb. 5s...	102	100	101¼	— ⅜
Cal. Pet. 5s.....	100	99⅝	99¾	+ ⅛
Cal. Pet. 5½s.....	102¼	101¾	102	— ¼
General Pet. 5s.....	102½	102⅛	102½	0
Humble Oil & Refg. 5s..	102	101¾	101¾	0
Humble Oil & Refg. 5½s	102¼	101¾	101⅞	— ⅛
Pan Amer. P & T 7s....	99½	99½	99½	0
Pan Amer. P & T 6s....	103⅛	102⅜	102½	—1
Pan Amer. P & T 6s....	90	88	88	—2
Phillips Pet. 5¼s.....	95	92½	92½	—2½
Pierce Oil deb. 8s.....	107	106	107	+1
Pure Oil 5½s.....	100	99¼	99¼	— ¼
Pure Oil 5½s.....	99⅛	97¼	97¼	— ½
Richfield Oil Calif. 6s....	88	87	87	—1
Shell Union Oil 5s.....	95¾	93½	93½	—2⅝
Shell Union Oil 5s with war.	98½	96⅝	96⅝	—1⅜
Sinclair Con. Oil 7s.....	103¾	103⅜	103⅜	— ⅛
Sinclair Con. Oil 6½s...	101½	101¼	101¼	— ⅜
Sinclair Con. Oil 6s D...	100⅜	100¼	100¼	— ⅛
Sinclair Con. Crude 5½s.	101	100¾	100¾	— ⅛
Sinclair Pipeline.....	98½	98	98⅜	+ ⅛
Skelly Oil 5½s.....	96½	95⅝	95⅝	— ½
S. O. N. J. 5s.....	103½	102¾	103¼	— ¼
S. O. N. Y. 4½s.....	99	97¼	99	+1
Union Oil of Calif 6s A..	108¾	108½	108⅝	0
Union Oil of Calif. 5s C..	100¾	99⅜	100⅜	+ ⅛
Union Oil of Calif. 5s....	99¾	99¼	99¼	— ¼
Warner-Quinlan 6s.....	82½	82	82	—2
White Eagle Oil 5½s....	104¼	103½	104	— ¼

New York Curb Bonds

Week Ending June 27

	High	Low	Last	Change
Beacon Oil 6s '36.....	103⅞	103⅞	103⅞	+ ⅛
Cities Serv. 5s '66.....	83¾	83¼	83¼	— ¾
Cities Serv. 5s '50.....	100½	100	100	0
Cities Serv. G. 5½s '42..	86½	85⅞	85⅞	— ½
Cities Serv. G. P. 6s '43.	92½	92¼	92¼	— ⅜
Cont. Oil 5½s '37.....	95½	95⅜	95⅜	— ⅛
Empire O & R 5½s '42..	86	84¼	84¼	— 1
Gulf Oil 5s '37.....	101¾	101½	101½	— ⅛
Gulf Oil 5s '47.....	101½	101⅝	101	— ⅜
Indep. Oil 6s '39.....	101¾	101	101¼	—2¾
Sun Oil 5½s '39.....	102¼	102⅛	102¼	0
Union Gulf 5s.....	100¼	99½	100¼	+ ¼

ST. LOUIS—E. W. Manns, who has been with the Shell Petroleum Corp. for eight years, is being transferred from the St. Louis headquarters of the company to the Chicago regional sales office where he will assume new sales work July 1.

CHICAGO June 27.—The industrial Petroleum Corp, will hold its annual golf party here July 11.